

BRIGHAM YOUNG UNIVERSITY



General Catalog of Courses
1970-72


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Brigham Young University *Bulletin*



CATALOG OF COURSES

1970-71 — 1971-72

This catalog covers two complete academic years. Please keep it for reference throughout the 1970-71 and 1971-72 school years.

Published by

Brigham Young University

Provo, Utah

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University Calendar

Although as accurate as possible at the time of the printing of this catalog, the calendar is subject to change at the discretion of the University administration.

1970-71

Fall Semester, 1970

April 30 (Thursday): Final date for new freshmen to submit applications for Fall Semester, 1970.

July 31 (Friday): Final date for new transfer students, former BYU students and graduate students to submit applications for Fall Semester, 1970.

September 10, 11 (Thursday, Friday): Utah Conference on Higher Education.

September 14, 15 (Monday, Tuesday): Preschool Faculty Conference.

September 15, 16 (Tuesday, Wednesday): New-student orientation.

September 17 (Thursday): Registration for new students.

September 18, 19 (Friday, Saturday): Registration.

September 21 (Monday): Class instruction begins.

September 23 (Wednesday): First day changes in registration are permitted.

October 2 (Friday): Last day on which late registration may occur for Fall Semester and for adding classes.

October 3 (Saturday): Junior English Proficiency Examination.

November 13 (Friday): Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.

November 21 (Saturday): Junior English Proficiency Examination.

November 26, 27 (Thursday, Friday): Thanksgiving recess.

December 18 (Friday): Last day of classes before Christmas recess.

January 4 (Monday): Classes resume after Christmas recess.

January 8 (Friday): Last day on which a student may officially withdraw from the University or drop classes.

January 18, 19 (Monday, Tuesday): End of formal class period for Fall Semester. Final examinations may not be given before January 20.

January 20, 21, 22, 23, 25, 26, 27, 28 (Wednesday, Thursday, Friday, Saturday, Monday, Tuesday, Wednesday, Thursday): Fall Semester final examination period.

Spring Semester, 1971

- January 18 (Monday):** Final date for submitting applications for admission or readmission for Spring Semester, 1971.
- January 29 (Friday):** New-student orientation.
- February 1, 2, 3 (Monday, Tuesday, Wednesday):** Registration for all students.
- February 4 (Thursday):** Class instruction begins.
- February 8 (Monday):** First day changes in registration are permitted.
- February 13 (Saturday):** Junior English Proficiency Examination.
- February 17 (Wednesday):** Last day on which late registration may occur for Spring Semester and for adding classes.
- March 26 (Friday):** Midsemester registration for students released from missions and from active duty with the Armed Services since the close of late registration.
- April 5, 6 (Monday, Tuesday):** Spring vacation.
- April 10 (Saturday):** Junior English Proficiency Examination.
- May 7 (Friday):** Last day on which a student may officially withdraw from the University or drop classes.
- May 8 (Saturday):** Y Day.
- May 19, 20 (Wednesday, Thursday):** End of formal class period for Spring Semester. Final exams may not be given before May 21.
- May 21, 22, 24, 25, 26, 27 (Friday, Saturday, Monday, Tuesday, Wednesday, Thursday):** Spring Semester final examination period.
- May 28 (Friday):** Commencement exercises and college convocations.
- May 31 (Monday):** Memorial Day observed.

Summer Session, 1971

- May 29 (Saturday):** Final date for submitting applications for admission or readmission for First and Second Terms, Summer Session, 1971.
- June 7, 8, 9, 10, 11 (Monday, Tuesday, Wednesday, Thursday, Friday):** Special workshops and conferences.
- June 11 (Friday):** New-student orientation.
- June 14 (Monday):** Registration.
- June 15 (Tuesday):** First Term begins.
- June 26 (Saturday):** Junior English Proficiency Examination.
- July 5 (Monday):** National holiday observed.
- July 16 (Friday):** First Term ends.
- July 17 (Saturday):** Second Term registration.
- July 19 (Monday):** Second Term begins.

UNIVERSITY CALENDAR

July 24 (Saturday): State holiday observed.

August 20 (Friday): Second Term ends—commencement.

For further information on dates relative to the University Calendar, consult the current class schedule.

1970

	S	M	T	W	T	F	S		S	M	T	W	T	F	S	
JAN.		4	5	6	7	8	1	2	3							
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	15	16	17	18	19	20	21									
	22	23	24	25	26	27	28									
MAR.	1	2	3	4	5	6	7									
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	22	23	24	25	26	27	28									
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MAY								1	2							
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JUNE	1	2	3	4	5	6										
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	22	23	24	25	26	27	28									
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	20	21	22	23	24	25	26									
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1971

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JAN.											JULY								
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	10	11	12	13	14	15	16					11	12	13	14	15	16	17	
	17	18	19	20	21	22	23					18	19	20	21	22	23	24	
	24	25	26	27	28	29	30					25	26	27	28	29	30		
FEB.											AUG.								
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	7	8	9	10	11	12	13					8	9	10	11	12	13	14	
	14	15	16	17	18	19	20					15	16	17	18	19	20	21	
	21	22	23	24	25	26	27					22	23	24	25	26	27	28	
												29	30	31					
MAR.											SEP.								
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	7	8	9	10	11	12	13					12	13	14	15	16	17	18	
	14	15	16	17	18	19	20					15	16	17	18	19	20	21	
	21	22	23	24	25	26	27					22	23	24	25	26	27	28	
												26	27	28	29	30			
APR.											OCT.								
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	11	12	13	14	15	16	17					10	11	12	13	14	15	16	
	18	19	20	21	22	23	24					17	18	19	20	21	22	23	
	25	26	27	28	29	30						24	25	26	27	28	29	30	
												31							
MAY											NOV								
	1	2	3	4	5	6	7	8	9	10		1	2	3	4	5	6		
	9	10	11	12	13	14	15					7	8	9	10	11	12	13	
	16	17	18	19	20	21	22					14	15	16	17	18	19	20	
	23	24	25	26	27	28	29					21	22	23	24	25	26	27	
	30	31										28	29	30					
JUNE											DEC.								
	1	2	3	4	5							1	2	3	4	5	6		
	6	7	8	9	10	11	12					5	6	7	8	9	10	11	
	13	14	15	16	17	18	19					12	13	14	15	16	17	18	
	20	21	22	23	24	25	26					19	20	21	22	23	24	25	
	27	28	29	30								26	27	28	29	30	31		

1972

	S	M	T	W	T	F	S		S	M	T	W	T	F	S	
JAN.		2	3	4	5	6	7	8								
		9	10	11	12	13	14	15		JULY						
		16	17	18	19	20	21	22			2	3	4	5	6	7
		23	24	25	26	27	28	29			8	9	10	11	12	13
		30	31								14	15	16	17	18	19
											20	21	22	23	24	25
											26	27	28	29	30	31
FEB.	1	2	3	4	5	6	7	8		AUG.	1	2	3	4	5	6
	9	10	11	12	13	14	15	16			7	8	9	10	11	12
	17	18	19	20	21	22	23	24			13	14	15	16	17	18
	25	26	27	28	29	30					19	20	21	22	23	24
											25	26	27	28	29	30
MAR.		5	6	7	8	9	10	11		SEPT.						1
		12	13	14	15	16	17	18			3	4	5	6	7	8
		19	20	21	22	23	24	25			9	10	11	12	13	14
		26	27	28	29	30	31				15	16	17	18	19	20
											21	22	23	24	25	26
APR.		2	3	4	5	6	7	8		OCT.	1	2	3	4	5	6
		9	10	11	12	13	14	15			7	8	9	10	11	12
		16	17	18	19	20	21	22			13	14	15	16	17	18
		23	24	25	26	27	28	29			19	20	21	22	23	24
											25	26	27	28	29	30
MAY	1	2	3	4	5	6	7	8		NOV.						
		9	10	11	12	13	14	15			5	6	7	8	9	10
		16	17	18	19	20	21	22			11	12	13	14	15	16
		23	24	25	26	27	28	29			17	18	19	20	21	22
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											29	30				
JUNE		5	6	7	8	9	10	11		DEC.						1
		12	13	14	15	16	17	18			3	4	5	6	7	8
		19	20	21	22	23	24	25			9	10	11	12	13	14
		26	27	28	29	30	31				15	16	17	18	19	20
											21	22	23	24	25	26
											27	28	29	30	31	

Student Academic Services

Office of Admissions and Records

The Office of Admissions and Records is a service office for all Brigham Young University students from the time of their first inquiry about the University until they graduate. This office is also a service agency for faculty members, parents, the University administration, and the various agencies which are eligible to receive information from the records of students. The total responsibility of the office is divided into the following nine functional areas under the general supervision of the dean of Admissions and Records: High School-Junior College Relations, Admissions Advisers, Undergraduate Scholarships and Awards, Admissions, Admissions Counseling, Registrar, Registration, Advisement, Records, Transfer Evaluation, and Graduation.

Admissions Counseling

It is the desire of the University to be of service to all who seek admission to BYU, regardless of their admissibility. For this reason the Office of Admissions Counseling has been established to counsel not only with those applicants who are admissible to the University but also to offer guidance for those who may have a more satisfactory experience elsewhere. Of those students who are admissible, many desire counsel from someone prior to their attendance at BYU. Many of these students can be assisted directly through this office while others can be directed to some of the other functional areas throughout the University. Those students who may not be admissible may (1) be assisted in understanding what is needed to further qualify themselves for admission, or (2) be guided in developing some alternative educational experience. With the increasing number of applicants each year who desire to attend BYU and a limit on the number that can be accepted, it becomes increasingly important for those who may not be admitted to have their horizons expanded and be guided in choosing alternatives. Any student who would like to meet with an admissions counselor should contact the Admissions Counseling Office, A-183 ASB.

Admission

BYU Standards. Students of any race, creed, color, or national origin are accepted for admission to Brigham Young University provided they maintain ideals and standards in harmony with those of The Church of Jesus Christ of Latter-day Saints and meet the University's academic requirements. High standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; and abstinence from tobacco, alcohol, and harmful drugs are required of every student.

Applications for Admission or Readmission. Admission or readmission to the University is granted on the basis of an official application. Requests for application forms and other necessary information should be directed to the following offices:

Undergraduate Students—Admissions Office, A-153 ASB

Graduate Students—Office of Graduate Admissions, D-251 ASB

International Students—BYU International Students Office, A-245 ASB

American Indian Students—Indian Education Center, 180 FOB

Admissions Evaluation Fee. A \$10 nonrefundable admissions evaluation fee must accompany the admissions application. Please send the evaluation fee in the form of a check or money order payable to Brigham Young University. The application and the fee must reach BYU by the admissions application deadline

for the semester or session for which the student is applying. **This is separate and distinct from the \$10 housing application deposit.**

Social Security Number. Each student entering the University must have a social security number for identification on all student records. If a student does not have a social security number he should go to the nearest social security office or local post office and make application. International students will not have a social security number but will have an appropriate number assigned to them by the Admissions Office. The social security number must be filed with the Admissions Office before a student will be allowed to register for classes.

Deadlines for Applications. Applications for admission or readmission and the necessary accompanying materials must reach the Admissions Office no later than the deadline dates indicated below:

Students who wish to enroll for—	Must have submitted all admissions materials by—
Fall Semester	
New freshmen	April 30
Transfer, *former, and graduate students	July 31
Spring Semester	January 20
Summer School	May 31
First and Second Terms	

*All students who have been out of school one semester or more must reapply.

American College Tests. Before being accepted to Brigham Young University, all entering freshmen and all transfer students with less than 24 semester hours of credit must take the American College Test. Test scores are not available until approximately four weeks after the examination date. It is necessary, therefore, for students to take the ACT far enough in advance to insure arrival of the scores in the Admissions Office prior to the application deadline of the semester for which they are applying. The national test dates annually will be:

October—Third Saturday
December—Second Saturday
February—Third Saturday
April—Fourth Saturday
July—Third Saturday

Students must register for these tests at least one month in advance of the test date. Registration materials may be obtained from most high school or college counseling offices or by writing to Registration Department, American College Testing Program, P. O. Box 414, Iowa City, Iowa 52240.

New Freshman Students. To be admitted to the University, a student must submit all required materials by the deadline dates as listed above:

1. Completed application form, all parts
2. American College Test results
3. Official transcripts of all academic work completed including high school and posthigh school work
4. \$10 nonrefundable admissions evaluation fee
5. Confidential interview report form completed by bishop or other appropriately designated Church or school official

New freshmen desiring admission for Fall Semester are urged to submit their applications and take the American College Test as soon as possible after they begin their senior year of high school. Students may be considered for admission and receive notice of acceptance to BYU as soon after completion of their junior year as transcripts and American College Test scores are available. In all cases this acceptance is subject to the student's graduation from an approved high school where he must have completed ten academic units, three of which must be in English, and one of which must be algebra or geometry. The remaining six units may be from the following areas: English, mathematics, science, social science, foreign language.

Students nineteen years of age and over who have not completed high school may be considered for admission by submitting:

1. Official transcripts of high school work completed
2. Results of the high school level General Educational Developmental test
3. Results of the American College Test
4. All other requirements as defined under the section entitled "New Freshman Students."

These materials must be submitted by the admissions deadlines and are subject to individual consideration and approval by the Admissions Committee.

Early Admission. A high school student who would like to be considered for admission to Brigham Young University prior to his graduation must meet the following requirements:

1. A cumulative high school grade-point average of 3.5 (B+ or above) on all work to date
2. A composite standard ACT score of 24 or above
3. Submit an unconditional letter of recommendation from his parents or guardian recommending that he enroll in a college program prior to high school graduation
4. Submit an unconditional letter of recommendation from his high school counselor or principal recommending that he enroll in a college program prior to high school graduation
5. All other requirements as defined under section entitled "New Freshman Students."

All early admission requests are subject to individual consideration by the Admissions Committee and the final decision rests with that committee.

New Transfer Students. Transfer students seeking admission to BYU must have a cumulative grade-point average of 2.25 in their previous college work and in their most recent college work. They must also submit the following materials by the established deadline dates:

1. Completed application form, all parts
2. Official transcripts of all previous work (an official transcript from each school attended is mandatory)
3. \$10 nonrefundable admissions evaluation fee
4. Confidential interview report form completed by a bishop or other appropriately designated Church or school official

Students with less than 24 semester hours of transfer credit must submit an official high school transcript and results from American College Test in addition to all college transcripts.

For purposes of determining the admissions deadline, a transfer student is defined as a student who has been enrolled on a full-time basis at another college or university. Students not meeting this requirement must apply by the deadline for new freshman students.

Health Information Form. In order that the University may provide proper medical care, the student who receives notice of his acceptance will be given a health form on which the condition of his health may be reported by a personal physician after examination. This questionnaire must be returned to the health center before the student's registration. The information given is not used by the Admissions Office and in no way influences the admissions decisions.

New Students from Foreign Countries. To be admitted to the University a student who is not a U. S. citizen must present credentials corresponding to the requirements stated above under the headings "New Freshman Students" or "New Transfer Students." In addition, the student must obtain a clearance from the BYU foreign-student adviser before being accepted. Students should contact the International Student Office, A-245 ASB.

Former BYU Students. All former BYU students who have discontinued school for one semester or more must apply for readmission. If a student has

enrolled at another institution since last attending BYU, official transcripts of credit from each of those schools must accompany the readmission application. All readmission applications and transcripts (when required) must reach the Admissions Office by July 31 for Fall Semester, January 20 for Spring Semester, and May 31 for Summer School.

Continuing Students. Registration materials are prepared for all students registered for daytime classes at the University during the previous semester. Students who have been attending evening classes, special courses and conferences, or one of the BYU continuing education centers must apply for admission or readmission in order to register for daytime classes and must observe outlined deadline dates.

All Graduate Students. All students who have received a bachelor's degree (other than those working toward a second bachelor's degree) will be admitted to the University through the Graduate School Office. Graduate students are classified as degree seeking or nondegree seeking.

Inquiries on graduate admissions or graduate scholarships and fellowships should be addressed to the Graduate Dean, D-208 ASB, Brigham Young University, Provo, Utah 84601. Applicants for admission to the Graduate School will be held to the application deadline dates previously listed for undergraduate students. The Graduate Catalog will be sent, on request, from the Office of the Graduate Dean.

Summer School Students. Students who attended summer school either of the two previous summers as regular day school students are eligible for continued study at the University and need not apply for readmission for summer school. Registration materials are also prepared for students who were enrolled in regular day classes during spring semester. All other students must apply for admission or readmission no later than May 31.

Notice of Acceptance. All students accepted by the University should receive an official permit to register within four weeks after all required admissions materials, including the \$10 fee, are available in the Admissions Office. Permits to register are valid only for the semester indicated on the permit and students desiring to be considered for any other semester must notify the Admissions Office in writing by the established deadline dates for that semester.

Tuition and Fees. The tuition and fees for the school year 1970-71 are as follows:

Per semester	\$250
Total two semesters	\$500

Non-LDS students registering at BYU pay an additional \$125 per semester or \$250 per two semesters. Since approximately three-fourths of the operating costs of the University is paid for from the tithes of the LDS Church, it is necessary to charge a higher tuition to nonmember students.

Catalog. The General Catalog of Courses can be obtained by sending a return address and \$1.00 to the Brigham Young University Mail Answering Service, B-69 ASB, Provo, Utah 84601.

Student Employment. A student needing employment should contact the BYU Campus Employment Office in person as soon as possible after arriving in Provo. Important in finding work are skills, class schedule, willingness to accept available work, and diligent searching. Preference is given those students with greatest financial need.

University Housing. All prospective BYU students who wish to live on campus should make application for housing on application forms available from the Office of Student Housing. A \$10 housing deposit should be submitted with the application. This fee is separate and distinct from the \$10 nonrefundable admissions evaluation fee.

Housing assignments made through the Housing Office do not confirm a student's admissibility to the University.

Off-Campus Housing in Provo Community. Detailed information relative to housing accommodations in the community will be furnished by the Residential

Housing Office upon request. All students living off-campus must live in University-approved student housing.

Where to Write for Information

Admissions—Admissions Office, A-153 ASB
 Admissions Counseling—A-183 ASB
 American Indians—Indian Education Center, 180 FOB
 Graduate Admissions—Office of Graduate Admissions, D-251 ASB
 Graduation—Graduation Evaluation Office, B-130 ASB
 High School and Junior College Relations, B-180 ASB
 Housing—Housing Office, C-141 ASB
 Honors Program—Director of the Honors Program, 436 JRCL
 Records—Records Office, B-163 ASB
 Registration—Registration Office, B-166 ASB
 Scholarships—Undergraduate Scholarships Chairman, B-188 ASB
 Graduate Fellowships and Awards Office, D-208 ASB
 Selective Service—Veterans and Selective Service Office, A-229 ASB
 Student Loans—Financial Aids Officer, D-141 ASB
 Summer School—Director of Summer School, C-356 ASB
 General Inquiries—University Relations Mail Answering Service, B-69 ASB

Registration

Registration Procedure. The University calendar on pages 5-7 of this catalog lists the dates for registration. The alphabetical listing of registration appointments is printed in the class schedule which may be obtained for each semester at the BYU Bookstore. Students are urged to register on the days listed for registration. A late fee is charged each student who does not complete his registration on the specified days.

Changes in Registration. Students should exercise great care in completing their initial registration. Making changes in registration results in inconvenience for the students and unnecessary costs for the University. However, when a change in registration becomes necessary, students must obtain approval and a change-in-registration card from their adviser and the approval and signature of each instructor involved.

Changes in registration may be made without charge for the first eight days of the change-in-registration period. Thereafter, a \$5.00 fee will be charged for each change-in-registration card processed. (Complete change-in-registration procedures are described in the class schedule.)

Withdrawal from Classes. Any student withdrawing from individual classes must clear with his adviser and the instructor of the class. (Detailed withdrawal procedures are described in the class schedule.)

Withdrawal from Evening Classes. A student withdrawing from classes for which he has registered in the Evening Classes Office must do so by notifying that office and by completing the withdrawal forms. An Evening Classes student who does not properly withdraw will receive a failing grade.

Complete Withdrawal from the University. A student discontinuing his entire registration at the University is required to clear his termination through the office of the dean of his college and the office of the dean of students.

Limitation on Credit in One Semester. An undergraduate student in good standing may register for as many as 17 hours of credit in any one semester by following the regular registration procedure. In the case of a student who has high academic ability, the dean of a college may authorize the student to register for a maximum of 18 hours for the first semester in residence and a maximum of 19 hours for any succeeding semester. Any student who has completed 15 or more hours of college work and who has an accumulative grade-point average of 3.5 (or a 3.5 average in the semester previous to registration) may register, with the consent of his dean and the dean of Admissions and

Records, for 21 hours. Classes taken for audit or by correspondence, and evening classes or off-campus courses constitute a part of the student's total registration. Any exceptions to the above rules must be presented to the dean of Admissions and Records for consideration.

Course Divisions. Courses of study are given numbers as follows:

Preparatory and remedial courses	1- 99
Lower-division courses	100-299
Upper-division courses	300-499
Graduate or advanced undergraduate courses	500-599
Graduate courses	600 and above

Responsibility for the Preparation of Teachers. All certificates for teaching, counseling, supervising, administration, special education, and library work in the public schools of Utah are granted by the State Department of Public Instruction.

When all requirements for state certification have been fulfilled, students of the University registered in any of its colleges or in the Graduate School will be recommended for certification by the dean of the College of Education. The President makes final decisions on all matters pertaining to education in the University. The President has assigned the dean of the College of Education to act in an administrative capacity as the representative of the University. The dean is assigned the responsibility to give final approval on all aspects of the teacher education program, including matters pertaining to general education, professional education, and teaching majors and minors. All students in the teacher certification program, regardless of their college registration, are required to have an assigned adviser in the College of Education to approve their programs.

Most students seeking an elementary certificate register in the College of Education. However, programs are available for majors in child development and family relationships and in speech correction to obtain an elementary teaching certificate.

Students desiring state certificates should make application with the dean of the College of Education through the Teacher Certification Office and not with the State Department of Public Instruction.

Records

Classification of Students. At the beginning of each semester, students are classified for that semester as follows:

Credit hours earned	Classification
1-32	freshman
33-64	sophomore
65-96	junior
97-128	senior

Engineering students having more than 128 semester hours are classified as fifth-year professional students. Completion of the required courses in freshman composition is prerequisite to classification as a junior. A student who has met the entrance requirements but who registers for nine hours of work or less will be classified as a part-time student.

A regular student who has completed all requirements for the bachelor's degree is classed as a graduate student. A graduate student or a student holding a bachelor's degree from a four-year accredited institution may register at Brigham Young University as follows:

1. In the Graduate School under the regular requirements for an advanced degree.
2. In the Graduate School as a nondegree-seeking student.

Admission procedures to the Graduate School are indicated in the Graduate School Catalog and apply to those who have graduated from Brigham Young University as well as from other universities.

Credits. A student may earn credit which will be recognized by the University in the following ways:

1. Complete work in the regular courses offered by the University.
2. Complete courses by correspondence, in Evening Classes, or in the off-campus centers. All such courses taken by a currently enrolled student must have the approval of the student's dean and will be considered part of his current semester load. Credit earned through classes which constitute unauthorized overload will not be allowed.
3. Complete work in an accredited college and then transfer the credit to Brigham Young University. Credit from other schools must be filed with the admission office, A-153 ASB, upon application for admission to the University.
4. Pass a satisfactory examination in any course offered by the University, providing the student has never been registered in the class either for credit or audit. The courses offered in the College of Religious Instruction are an exception to this rule. Such credit will be given only with the joint consent of the chairman of the department concerned and the dean of the college in which the student is registered. A fee of \$10.00 per credit hour is charged for special examinations, provided the total fee for any one subject does not exceed \$60.00.

By payment of an auditing fee a student may obtain permission to audit courses of instruction. Under no circumstances may credit be obtained by means of special examinations for courses which have been audited or in which the student has been enrolled.

Grading System

The present grading system uses the letters A, A—, B+, B, B—, C+, C, C—, D+, D, and D— to indicate that the student receives credit, and an E to indicate that no credit is allowed.

The "A" grade is given only to students whose intellectual capacity and actual academic achievement are of exceptional quality. Work of a quality somewhat higher than average but not of exceptional quality receives a "B." "C" indicates that the student has completed classroom work, outside assignments, and examinations in an average manner.

Students who fail to reach the average academic achievement, but who do work of a quality still acceptable to the University are given a "D" grade. A "D" grade draws credit even though the work done is not fully satisfactory. Students failing to achieve work of minimum University quality receive an "E" grade. This grade draws no credit.

If a student withdraws officially from a class during the first five weeks of a semester, the permanent record will not show a registration for that class.

If a student properly withdraws from a class between the fifth and fourteenth week, his record will be marked "W."

If a student discontinues attending a class at any time during the semester without completing the official withdrawal procedures, he will receive a grade of "UW" (unofficial withdrawal). A "UW" has the same negative value as an "E" in computing a grade-point average.

The letter "I" (incomplete) is used to indicate that the work is not yet completed. It is given **only** when special arrangements for the completion of the specific work involved have been made between the teacher and the student. The "I" is **never** given when a student has failed or is failing the course. An "I" grade must be completed within one year from the date the grade is given.

When a thesis or dissertation has been completed, one of the following grades may be given: (1) "E" for failure; (2) "P" when the thesis has been satisfactorily completed. The letter of "P" (passed) is also used in connection with the student teaching program of the College of Education of the University.

Once recorded in the Office of Admissions and Records, no final grade may be changed except to correct the record when an error in calculation has been made by the teacher, in posting by the Data Processing Department, by the Office of Admissions and Records, or by action of the Academic Regulations and Procedures Committee. When such corrections need to be made, an official "Grade

Change Authorization" form must be completed; signed by the teacher, the chairman of the department, and the dean of the college; and sent directly to the Records Office, B-163 ASB.

Semester grade reports are mailed to any student at the end of each semester who leaves a self-addressed, stamped envelope with the Records Office. It is also the policy of the University to send semester grade reports to the parents of all single freshman students under twenty-one years of age and all unmarried students who are on academic probation.

Grade-Point Values

A	4.0	C	2.0
A—	3.7	C—	1.7
B+	3.4	D+	1.4
B	3.0	D	1.0
B—	2.7	D—	0.7
C+	2.4	E	0.0

Repeating Classes. Classes may be repeated in the following ways:

1. Repeat at Brigham Young University courses taken at Brigham Young University.
2. Repeat at Brigham Young University courses taken at other institutions.
3. Repeat at other institutions courses taken at the same institution and have the credit transferred to Brigham Young University.

When a class has been repeated, the grade used in the calculation of the student's grade-point average is the grade earned the last time the repeated class was taken.

Degrees Offered

Associate Degrees. An associate degree is awarded by the University in the fields of business, data processing, engineering, family living, genealogy, general curriculum, industrial technology, law enforcement, library, nursing (R.N.), piano technician, and photography.

Baccalaureate Degrees. The University confers the baccalaureate degrees of Bachelor of Engineering Science, Bachelor of Science, Bachelor of Arts, Bachelor of Music, and Bachelor of Fine Arts in the various academic colleges.

Bachelor of Arts and Bachelor of Science Degrees. Each department determines which type of bachelor's degree it gives on the basis of appropriateness for the area of study involved. Some departments are permitted to offer both degrees. Each candidate will receive the degree designated by the department. The following list indicates the degrees offered by the various departments and areas of study:

B.A. Degrees

Archaeology	German	Physical Education—
Asian Studies	Greek	Women
Chinese	History	Physics
Communications	Humanities	Political Science
English	International Relations	Portuguese
Environmental Design	Latin	Russian
European Studies	Latin-American Studies	Spanish
French	Music	Speech and Dramatic Arts

B.S. Degrees

Accounting	Building Construction	Design and Drafting
Agricultural Economics	Technology	Technology
Agricultural Education	Business Education and	Electronics Technology
Agronomy and Horticulture	Office Management	Family Economics and
Animal Science	Business Management	Home Management
Anthropology	Chemistry	Food Science and
Botany and Range Science	Computer Science	Nutrition

Genealogy Technology	Law Enforcement	Social Work
Geography	Mathematics	Special Education
Geology	Microbiology	Speech and Dramatic Arts
Health Science	Nursing	Statistics
Home Economics Education	Physical Education	Technical Teacher Education
Child Development and Family Relationships	Psychology	Manufacturing Technology
Industrial Arts Teacher Education	Recreation Education	Youth Leadership
	Sociology	Zoology

B.A. or B.S. Degrees

Clothing and Textiles
Economics

B.S. for economics majors in College of Business

B.A. for economics majors in College of Social Sciences

Teacher Education

B.A. or BFA Degree

Art

Bachelor of Music Degree

Music Education

Bachelor of Engineering Science Degree

Chemical Engineering Science
Civil Engineering Science
Electrical Engineering Science
Geological Engineering Science
Mechanical Engineering Science

Advanced Degrees. For list of majors offered, see the Graduate School section.

General Education Program

A candidate for a bachelor's degree at Brigham Young University must satisfy all of the general education requirements described below. Transfer students entering BYU from accredited colleges will have their transfer credit evaluated on the basis of BYU programs and will be notified in writing as to the general education requirements remaining to be completed. The University will accept all transfer credit that is a reasonable equivalent to BYU-approved courses.

Area Requirements.

American History and Government. The general education requirement in this area may be satisfied by completing the following course or combination of courses: Hist. 170; Hist. 120 and 121; Hist. 121 and Pol. Sci. 110; Econ. 274 and Pol. Sci. 110.

A student can arrange with the History Department to take an examination that, if passed, will satisfy the American history and government requirement.

Biological Science. A minimum of 6 semester hours must be completed from the approved courses listed below:

- Micro. 121 (3) Introductory Microbiology
- Micro. 311 (2) Sanitation and Public Health
- Micro. 321 (3) General Microbiology
- Micro. 322 (1) General Microbiology Laboratory
- Micro. 331 (5) Microbiology
- Bio. Agr. Ed. 201 (4) Introduction to Biology
- Bio. Agr. Ed. 351 (3) Natural History for Elementary Teachers
- Bot. 101 (3) Plant Biology
- Bot. 105 (3) Plant Kingdom
- Bot. 110 (3) Plant Classification

- Bot. 205 (2) Field Botany
- Bot. 276 (3) Heredity
(Either Bot. 276 or Zool. 276, but not both, may apply.)
- Bot. 376 (3) General Genetics
(Either Bot. 376 or Zool. 376, but not both, may apply.)
- Bot. 460 (2) Conservation of Natural Resources
- Zool. 105 (3) Animal Biology
- Zool. 202 (4) Invertebrate Zoology
- Zool. 203 (4) Vertebrate Zoology
- Zool. 235 (3) Insect Life
- Zool. 261 (4) Elementary Human Physiology
- Zool. 262 (2) Elementary Human Anatomy
- Zool. 276 (3) Heredity
(Either Bot. 276 or Zool. 276, but not both, may apply.)
- Zool. 376 (3) General Genetics
(Either Bot. 376 or Zool. 376, but not both, may apply.)

English Composition. A student must earn 3 semester hours by completing G. C. Engl. 105 or Engl. 111 or 115 during his freshman year. He must earn an additional 3 hours by taking Engl. 212, 215, or 251 during his sophomore year or Engl. 316 during his junior year. The major department will designate which of the latter he should take. (See English Composition in the English section of this catalog.)

Health. This requirement may be satisfied by completing two semester hours of approved course work or by special examination arranged for with the Department of Health Sciences. Health 130 or Nurs. 202 and 212 are the courses approved to fill the health requirement.

Humanities and Fine Arts. A student must complete a minimum of 6 semester hours selected from the approved courses described below.

- Art 101 (2) Introduction to Art
- Art 108 (2) General Art
- Art 110 (2) Design in Everyday Life
- Art 301 (3) Art History and Appreciation
- Art 308 (2) American Art
- Art 403 (2) Ancient and Primitive Art
- Art 405 (2) Medieval Art
- Art 408 (2) Contemporary Art
- Commun. 101 (2) Introduction to Mass Communication
- Comp. Lit. 310 (3) Introduction to Comparative Literature
- Comp. Lit. 338 (3) European Novel
- Comp. Lit. 355, 356 (3 ea.) World Classics I, II
- Engl. 250 (3) Introduction to Literature
- Engl. 252 (2) Introduction to Poetry
- Engl. 253 (2) Introduction to Drama
- Engl. 254 (2) Introduction to Biography
- Engl. 260 (3) Masterpieces of American Literature
- Engl. 270 (3) Masterpieces of English Literature
- Engl. 282 (2) Shakespeare
- Engl. 332 (3) The English Novel from Defoe Through Dickens
- Engl. 333 (3) The Modern English Novel
- Engl. 335 (2) The American Novel to Dreiser
- Engl. 336 (2) The Modern American Novel
- Engl. 341 (2) English Drama to 1642
- Engl. 342 (2) Restoration and Eighteenth-Century Drama
- Engl. 343 (2) Modern English and American Drama
- Engl. 350 (2) The Bible as Literature
- Engl. 359 (2) The Short Story
- Engl. 360 (4) American Literature from the Beginnings to the Present
- Engl. 361 (4) Early American Literature
- Engl. 362 (4) Later Nineteenth-Century American Literature
- Engl. 364 (2) The Literature of the American West

- Engl. 366 (2) Modern Poetry
 Engl. 367 (2) English and American Folk Ballads
 Engl. 370 (5) English Literature II: From Donne Through Eliot
 Engl. 371 (3) English Literature to 1500: The Medieval Period
 Engl. 372 (4) English Literature from 1500 to 1660: The Renaissance Period
 Engl. 373 (4) English Literature from 1660 to 1780: The Classical Period
 Engl. 374 (4) English Literature from 1780 to 1832: The Romantic Period
 Engl. 375 (4) English Literature from 1832 to 1900: The Victorian Period
 Engl. 380 (5) Twentieth-Century Literature
 Engl. 381 (3) Chaucer
 Engl. 382 (3) Shakespeare
 Engl. 383 (2) Milton
 Hum. 101 (3) An Introduction to the Humanities
 Hum. 201 (3) The Arts in Western Culture: Age of Greece to Early Renaissance
 Hum. 202 (3) The Arts in Western Culture: Late Renaissance to the Modern Age
 Mus. 101 (3) Introduction to Music
 Mus. 103 (2) Survey of Music Literature
 Mus. 484, 485 (3 ea.) History of Music
 Phil. 110 (3) Introduction to Philosophy
 Phil. 211 (3) Theory of Knowledge
 Phil. 213 (2) Ethics
 Phil. 214 (2) Aesthetics
 Phil. 215 (2) Philosophy of Religion
 Speech and Dram. Arts 101 (3) Speech Communication
 Speech and Dram. Arts 102 (2) Introduction to Public Speaking
 Speech and Dram. Arts 115 (2) Introduction to the Theatre
 Speech and Dram. Arts 121 (3) Voice, Diction, and Interpretation
 Speech and Dram. Arts 301 (2) The Art of Public Speaking
 Chinese 440 (3) Historical Survey of Chinese Literature
 Chinese 443, 444 (3 ea.) Modern Chinese Literature
 Chinese 445 (3) Chinese Civilization
 Classical Civilization 341 (2) Greek and Roman Mythology
 Classical Civilization 441 (3) Classical Literary Traditions I: Greek Literature from Homer to the Alexandrian Period
 Classical Civilization 442 (3) Classical Literary Traditions II: Roman Literature of the Republic and Early Roman Empire
 Danish 340 (4) Introduction to Danish Literature
 Dutch 340 (4) Introduction to Dutch Literature
 Finnish 340 (4) Introduction to Finnish Literature
 French 440 (4) Historical Survey of French Literature
 French 441, 442 (3 ea.) Survey of French Literature and Culture
 French 445 (3) Introduction to French Civilization
 German 440 (4) Survey of German Literature and Culture
 German 441 (3) German Literature from the Beginning to 1700
 German 442 (3) German Literature in the Eighteenth Century
 German 443 (3) German Literature in the Nineteenth Century
 German 444 (3) German Literature in the Twentieth Century
 German 445 (3) Cultural History of Germany
 Greek 431, 432 (3 ea.) Masterpieces of Greek Literature
 Greek 441, 442 (3 ea.) Survey of Greek Literature and Culture
 Italian 441, 442 (3 ea.) Survey of Italian Literature and Culture
 Latin 441, 442 (3 ea.) Survey of Latin Literature and Culture
 Norwegian 340 (4) Introduction to Norwegian Literature
 Portuguese 431, 432 (3 ea.) Survey of Brazilian Literature I, II

Portuguese 445	(3)	Iberian and Ibero-American Civilization
Russian 441, 442	(3 ea.)	Survey of Russian Literature
Russian 445	(3)	Cultural History of Russia
Spanish 351	(2)	Hispanic Civilizations
Spanish 439	(3)	Elements of Literary Analysis
Spanish 441	(4)	Survey of Spanish Literature
Spanish 445	(3)	The Culture of the Hispanic World
Spanish 451	(4)	Survey of Hispanic-American Literature
Spanish 454	(3)	Hispanic-American Novel
Spanish 458	(3)	Hispanic-American Short Story
Spanish 470	(3)	The Narrative of the Golden Age
Spanish 485	(3)	Introduction to Contemporary Spanish Literature
Swedish 340	(4)	Introduction to Swedish Literature

Physical Education. A minimum of 2 semester hours, selected from any of the Physical Education 100-series courses, will satisfy the physical education requirement. One-half credit hour should be taken each semester of the freshman and sophomore years. Students expecting to complete this requirement with military-service credit or other University-approved programs should check with the Graduation Office, Abraham O. Smoot Building, B-130.

Physical Science. Six semester hours must be completed from the approved courses listed below:

Chem. 100	(3)	Elementary College Chemistry
Chem. 101	(4)	Introductory Chemistry
Chem. 105, 106	(4 ea.)	General College Chemistry
Chem. 111, 112	(3 ea.)	Principles of Chemistry
Chem. 113, 114	(2 ea.)	Introductory Analytical Chemistry
Chem. 151	(5)	Introductory Organic Chemistry (for family living, nursing, and related fields)
Geol. 101	(2)	Introduction to Geology
Geol. 102	(1)	Introduction to Geology Laboratory
Geol. 103	(3)	Life of the Past
Geol. 111	(4)	Physical Geology
Geol. 112	(4)	Historical Geology
Geol. 306	(3)	Landforms and Their Origin
Physics 100	(3)	Essentials of Physics
Physics 101	(3)	Current Topics in Physics
Physics 105, 106	(3 ea.)	Introductory Physics
Physics 107	(1)	Introductory Physics Laboratory
Physics 108	(1)	Introductory Physics Laboratory
Physics 109	(1)	Introductory Physics Laboratory
Physics 110	(3)	The Development of Scientific Thought
Physics 121, 122	(3 ea.)	Principles of Physics
Physics 127	(3)	Descriptive Astronomy
Physics 128	(1)	Elementary Astronomy Laboratory
Physics 129, 130	(2 ea.)	Introduction to Astronomy
Physics 137	(3)	Weather and Climate
Physics 167	(3)	Descriptive Acoustics of Music and Speech
Physics 177	(3)	Physics of Light and Photography
Physics 201, 202	(5 ea.)	General Physics
Physics 211, 213	(5 ea.)	Principles of Physics: Classical (designed primarily for physical science, chemistry and engineering majors)
Physics 214	(1)	Principles of Physics Laboratory
Physics 300	(3)	Philosophical Foundations of Modern Physics
Stat. 221	(3)	Principles of Statistics

Religion. Two semester hours in religion are required for each full-time registration (10 semester hours or more) by an undergraduate student at BYU until a total of 16 semester hours in religion has been earned for a bachelor's degree or a total of 8 semester hours for an associate degree.

Part-time students are required to complete 1 semester hour in religion for each 8 hours carried at BYU.

Transfer students are required to complete two semester hours in religion for each full-time registration, including Summer School.

Required and Accepted Courses. The graduating class of 1970, and all subsequent graduating classes, are required to complete Relig. 121 and 122 (or 421 and 422 for returned missionaries and upper-division transfer students).

All religion classes in the 100 through 400 series may be taken to meet the religion requirement, with the exception of Relig. 371, which is for prospective seminary teachers only. Graduate courses (catalog numbers 500 and above) and philosophy courses do not satisfy the religion requirements.

Devotional credit may be taken at the rate of one-half credit hour per semester. Four hours of such credit may be used to fulfill the sixteen-hour requirement for students seeking a bachelor's degree, and two hours for students seeking an associate degree.

Interpretation of University Policy on General Education Religion Requirements. Freshman and Sophomore Registrations. No more than 10 hours can be accumulated in the freshman and sophomore years toward fulfilling the general education requirement in religion. A student must complete 6 hours during the junior and senior years. Any additional hours completed will count as elective credit toward graduation.

Transfer Credit from LDS Colleges and Institutes. A student may not transfer religion credit to BYU to meet the general education requirement in religion; it will be counted as elective credit toward the total hours for graduation only. Two hours of religion credit must be taken at BYU for each semester in residence, including Summer School.

Institute credit will be appraised as follows: Credit will be accepted only if the institute director certifies that the course was taken for institute credit and was covered in accordance with college standards. If the transfer college credit and the institute credit combined exceed that permitted at BYU, the student must indicate to the Office of Admissions and Records the courses for which he desires to receive credit. (See Limitations on Credit in One Semester, Page 13.)

Requirements for Second Baccalaureate-Degree Candidates. Students who register at BYU for a baccalaureate degree, after having received one at another university, are required to take two hours of religion per semester.

Fifth-Year Bachelor Degree-Seeking Students (Engineers). Students seeking a fifth-year bachelor degree will be required to take religion in their fifth year, or two hours of religion per semester until a total of 16 hours maximum is reached.

Part-Time Students. Part-time students must present 1 hour of religion credit for each 8 hours of collegiate work completed. The ratio of 1 hour for each 8 hours must be kept current at the end of every two-year period. For any term in which a student registers as a regular student (10 hours or more) he must take 2 hours of religion credit.

Summer School. Full-time undergraduate Summer School students (those carrying 10 hours or more) will be held for 2 hours of religion. Students carrying fewer than 10 hours are considered part-time students and must complete 1 hour of religion for every 8 hours accumulated.

Definition of an Undergraduate. For the purpose of applying the above rules, a student is considered an undergraduate until he has received his undergraduate degree or has completed the requirements for graduation.

Students Required to Study Off Campus. If a student is required to study off campus as a part of his degree requirements, he is required to register for religion during that semester at an institute of religion or a BYU continuing education center unless one is not available.

Bible Credit from Non-LDS Colleges and Universities. Bible credit from accredited non-LDS universities and colleges will not satisfy the religion requirement. The transfer credit, however, will apply as elective credit toward the total hours required for graduation.

Credit Completed at Centers for Continuing Education. A student must complete 1 hour of credit in religion for every eight hours of academic credit completed at BYU centers for continuing education. No more than fourteen hours in religion earned at these centers may apply toward the total sixteen-hour requirement.

Social Science. Five semester hours must be completed from the approved courses listed below.

Agr. Econ. 112 (3) Economics and Agriculture
 Anthropology—all courses
 Archaeology—all courses
 Asian Studies—all courses
 CDFR 210 (3) Child Development
 CDFR 360 (3) Achieving Success in Marriage
 CDFR 361 (3) Family Relationships
 Economics—all courses, 111 and above
 Geography—all courses
 History—all courses
 Political Science—all courses
 Psychology—all courses except 370 and 374
 Rec. Ed. 337 (2) Philosophy of Recreation
 Sociology—all courses except 220 and 320

No courses in the 490's and 590's will count as G.E. credit.

Other Requirements. A bachelor-degree candidate must select and complete one of the two options described below:

A. Mathematics, Statistics, Logic, Science. A student can satisfy this requirement by completing a total of 6 semester hours selected from the approved courses. At least one course must be selected from an area other than the student's major department. The same course cannot satisfy the general education and the mathematics, statistics, logic, and science requirement.

MATHEMATICS	STATISTICS	LOGIC	SCIENCE
All college-level courses numbered 105 or higher	Stat. 221	Phil. 101	Microbiology—all courses
Acctg. 232	Stat. 241	Phil. 316	Bot. 110, 276, 321, 331, 376, 440, 450
Acctg. 332	Stat. 330	Physics 110	Zool. 261, 276, 363, 376, 430, 451
	Stat. 336	Physics 300	Chemistry—all courses
	Stat. 337		Physics 105, 106, 201, and all numbers above 201
	Stat. 432		Geol. 111, 112, 351, 352, 501
	Stat. 531		Psych. 374
	Psych. 370		Comput. Sci. 230
	P.E. 462		Indus. Ed. 101—industrial education students only
	Sociol. 320		
	(Statistics courses in other departments with Math. 105 as a prerequisite will also count.)		

B. Languages. Eight semester hours selected from the following approved courses will satisfy the language requirement. A student who has completed a high school language course or had other language experience should consult with language departments for examination and placement purposes. Successful completion of a 201 language class or one other advanced class will fulfill the foreign language requirement for graduation.

Arabic 102, 201	Greek 102, 201	Latin 102, 201 or
Chinese 102, 201	Hebrew 102, 201	Latin 111 and 112
Finnish 102, 201	Italian 102, 201	Norwegian 102, 201
French 102, 201	Japanese 102, 201	Portuguese 102, 201
German 102, 201	Korean 102, 201	Russian 102, 201
		Spanish 102, 201

Completion of the general education requirements outlined in the above areas will qualify a student for either the Bachelor of Science or the Bachelor of Arts degree as determined by the major department.

Graduation Requirements

Minimum Requirements. A candidate for a bachelor's degree must complete a minimum of 128 semester hours of credit. A student seeking a Bachelor of Engineering Science degree must complete a total of 154 semester hours of credit.

Upper-Division Requirements. A minimum of 40 semester hours of upper-division credit is required for a bachelor's degree.

Major Requirements. A student must complete at least 20 semester hours in his major department and must satisfy any additional departmental requirements. A minimum of 10 semester hours has to be earned on campus at BYU.

Residence Requirements. At least 30 semester hours of BYU residence credit is required for a bachelor's degree. A maximum of 10 semester hours earned at BYU centers for continuing education may be applied toward the 30-hour requirement. A student must register and be on campus during 2 semesters (need not be consecutive) or more to satisfy the residence requirement.

Second Bachelor-Degree Requirements. A student may qualify for a second bachelor's degree when the following requirements are satisfied: 1. BYU's general education requirements, 2. major requirements, 3. minor requirements, 4. residence requirements, 5. religion requirements, 6. other graduation requirements defined in the catalog for bachelor-degree candidates.

General Education Requirements. A candidate for a bachelor's degree must satisfy the following general education requirements:

Area Requirements	Semester Hours Required
American history and government	3
Biological science	6
English composition and literature	6
Health	2
Humanities and fine arts	6
Physical education	2
Physical science	6
*Religion (2 hours per semester in residence, including Summer School)	
Social science	5

A student must also complete one of the two options described below:

- A. Mathematics, statistics, logic, science 6
- B. Foreign language 8 advanced credit hours

(See section titled General Education Program for additional information.)

*See section titled Interpretation of University Policy on religion requirements.

Grade-Point Average Requirement. Any degree-seeking student must obtain a 2.0 (C) cumulative grade-point average by the beginning of the semester in which he plans to graduate. Transfer students must have a 2.0 (C) grade-point average in their residence credit at BYU and in their cumulative grade-point average.

Correspondence Credit. A maximum of 24 semester hours may be applied toward completion of the 128 semester hour requirement.

"D" Grade Credit. Not more than 18 semester hours of "D" grade credit may be applied toward completion of the bachelor-degree requirements.

ASSOCIATE DEGREES

Upon completion of a two-year curriculum, the associate of science degree will be awarded at the regular University graduation exercises. Requirements for

this degree include a minimum of 64 semester hours of credit, with a composite major of 30 credits or more and the following credits in general education:

English	6	
American History	3	
Health	2	
Physical Education	1	
Religion	2	per semester in residence including Summer School (including Relig. 121, 122, Book of Mormon)
Humanities	2	
Biological Science	2	
Physical Science	2	
Social Science	2	

Of the total of 64 credits at least 20 must be in residence; a total of 12 credits may be taken by correspondence. However, fifteen semester hours of work completed on the University Provo campus and five semester hours at a BYU residence Center for Continuing Education as a matriculated student, will satisfy the residence requirement for the two-year program in the Technical Institute. A maximum of 10 "D" credits can be accepted, but a cumulative and also BYU grade-point average of 2.0 or above is required. Students completing one of these programs may, if they desire, continue their work toward a baccalaureate degree.

For definite programs in fields offering Associate Degrees see section on Technical Institute.

Deadlines for Transfer, Correspondence, and Incomplete Credit. All incomplete grades must be removed from a student's record and all transfer and correspondence credit must be on file in the Records Office at least 4 weeks prior to commencement.

Application for Graduation. A student who expects to qualify for a bachelor's degree must submit a completed application for graduation form and a \$12 application fee to the Cashier's Office, Abraham O. Smoot Building, D-148, not later than December 15 of his senior year for spring commencement or February 15 for the summer commencement. Students are encouraged to apply for graduation as soon as they have completed 64 semester hours of credit and have passed the Junior English Proficiency examination. Application for graduation forms should be obtained from the major department.

Junior English Proficiency Examination. All students must pass the Junior English Proficiency examination to be eligible for a bachelor's degree. A student must take the examination during the first semester of his junior year (64 semester hours or more). The examination is scheduled for the second Saturday of each semester and midsemester, and the second Saturday of each summer term.

Foreign students who are planning to return to their native countries after graduation may take the foreign-student English Test in lieu of the Junior English Proficiency examination. The test is administered on the second Saturday of each semester, and students eligible to take the test must register for it at the International Office during the week preceding the examination.

Attendance at Commencement. A candidate for a bachelor's degree must attend the commencement and convocation exercises. Exceptions to this rule may be granted for reasons of extreme emergency by the dean of the college in which the student is majoring. A request to be officially excused must be presented in writing two weeks prior to commencement. Students not officially excused from commencement will not be awarded their degrees.

Adhering to University Standards. A student's graduation may be delayed or denied if he is found to be in violation of high standards of honor, integrity, and morality; graciousness in personal behavior; application of Christian ideals in everyday living; or of the Word of Wisdom of The Church of Jesus Christ of Latter-day Saints.

Change in Graduation Requirements. The University reserves the right to change the requirements for graduation, and a candidate will be required to comply with all changes pertaining to the uncompleted portion of his course.

Recognition of Outstanding Scholarship

In acknowledgment of outstanding scholarship, academic recognition is granted to certain bachelor-degree candidates. The announcement of such awards is made at the annual commencement exercises.

There are two designations in recognition of high scholarship: graduation "magna cum laude" and graduation "cum laude." These awards are made on the basis of excellence shown in work up to, but not including, the second semester of the senior year.

"Magna cum laude" is awarded those students who have earned at least forty-five hours of credit at Brigham Young University and obtained an overall grade-point average of 3.80 or higher. "Cum laude" is awarded those students who have earned at least forty-five hours of credit at Brigham Young University and obtained an overall grade-point average of 3.50 to 3.79.

The University will post and publish at the close of each semester of the regular school year the names of the students who have carried a minimum of 15 credit hours and earned a grade-point average of 3.5 or above in all classes. Those with grade-point averages of 3.8 and above will be given special recognition.

Office of School Relations

The Office of School Relations is responsible for admissions matters which bear upon the high schools and junior colleges from which the University draws its students. Its purpose is to render assistance to administrators and counselors in public and private schools, as well as the prospective students themselves.

Advisement of Prospective Students. Through participation in high school and junior college advisement programs throughout Utah and other states, School Relations personnel interpret admissions policies and other information pertinent to University enrollment.

An exchange of correspondence with counselors serves to answer questions and to aid in the solution of problems arising from applications for admission, scholarships, housing, and the Honors Program.

University Services to High School and Junior Colleges. The Office of School Relations provides for administrators and counseling personnel at both the high school and junior college levels statistical data summaries on the performance at BYU of students from their schools. Various publications provided through the year, including the *Counselors Guide to Brigham Young University* and "BYU Notes for Counselors," also serve to keep guidance personnel current on BYU policies.

Campus Tours and Interviews. On the premise that a student's consideration of the University is made more realistic by a campus visit and interviews with admissions officers or faculty, this office coordinates these arrangements for groups of students or individuals. Such a request should be addressed to Office of School Relations, B-180 ASB, Brigham Young University, Provo, Utah 84601.

University Fees

The University reserves the right to change these figures without notice. All students who register will be expected to pay tuition and fees prior to or at time of registration.

Approximately seventy percent of the cost of operating the University is paid from the tithes of the LDS Church. Therefore, students who are Church members, or their families, already have made a monetary contribution to the operation of the University. To equalize this burden somewhat it is necessary to charge nonmembers a higher tuition. Even this higher total payment, however, does not cover the total educational cost of nonmembers of the Church.

Tuition and General Fees (Effective Fall Semester, 1970)

Full-time students (9½ hours or over for undergraduate students; 9 hours or over for graduate students)

	First Semester	Second Semester	School Year
LDS Church Members	\$250	\$250	\$500
Nonmembers	\$375	\$375	\$750

Part-time students (9 hours or less for undergraduate students; 8½ hours or less for graduate students)

(The tuition and fees paid as a part-time student do not entitle one to health service, student activity privileges, or physical education suit and facility privileges.)

	LDS Church Members	Nonmembers
Minimum tuition and fees	\$ 50.00	\$ 85.00
3 credit hours	70.00	115.00
4 credit hours	90.00	145.00
5 credit hours	110.00	175.00
6 credit hours	130.00	205.00
7 credit hours	150.00	235.00
8 credit hours	170.00	265.00
9 credit hours	190.00	295.00

All part-time students enrolled in one or more physical education classes must pay an additional \$5.00.

The charge for noncredit courses or for auditing courses is the same as for credit courses. Noncredit courses taken by part-time students will be assessed on the basis of hours involved in lecture classes. For example, three hours of lecture a week would be considered three semester hours and would be charged for accordingly. Therefore, if a student was taking 8 credit hours plus a noncredit class involving two or more lecture hours per week, he would be considered a full-time student and must register as a full-time student. For courses in which no lecture hours are involved—for example, dissertations and theses—tuition and fees will be charged based on hours being carried during the semester, as determined by the supervising professor.

A fraction of an hour is counted as a full hour for assessing fees.

Registration in Evening Classes. All daytime students will be required to pay an additional fee of \$3 per credit hour (credit, noncredit, and audit) for all hours

carried under the Evening Classes program. Failure to pay this fee on the day of registration or the day on which an Evening Class is later added will result in a \$2.50 late-fee charge.

Late Registration Fee

Late registration fees will be assessed all full-time and part-time students for failure to complete registration on scheduled dates. No exception is made, regardless of reason for being late.

1. First five regular school days following the scheduled registration date \$ 5.00
2. After the fifth day following scheduled registration date 10.00

Late fees for part-time students will be assessed at 50 percent of the rate for full-time students.

Any student whose check is dishonored by his bank will be charged a handling fee of \$5.00. If the check is for tuition, there will be an additional charge of the late fee in effect at the time the check is redeemed.

Refunds—College Students

In the event of withdrawal by a student, a refund will be made on the basis of a charge of \$10 (\$5 for a part-time student) even though the student does not complete registration or attend school, plus a per-day charge of two percent of the total tuition and fees paid or payable for the semester. The days charged for will be the school days beginning with the first day of the semester in which classes were held following the date on which the student registered, to the day on which the student reported his withdrawal to the Office of the Dean of Students, both days inclusive.

Late fees are not refundable.

Any refund due a student because of withdrawal from school will be made only by check, through the mail, three weeks from the date on which the student reported his withdrawal and surrendered his receipt or activity card to the Office of the Dean of Students.

No refund will be granted to a student who is requested to withdraw for scholarship or other causes.

No refunds will be made directly to an unmarried student under twenty-one years of age unless the student has the written permission of his parents or legal guardian.

No refund will be made after August 31 of the school year in which payment was received by the University.

Miscellaneous General Fees and Fines

Graduation fee, bachelor's degree (only 50 percent refundable if degree is not obtained)	\$ 12.00
Graduation reevaluation fee (for students who defer graduation beyond the graduation date originally applied for)	2.00
Graduation fee, master's or doctor's degree (only 50 percent refundable if degree is not obtained)	20.00
Late application for graduation (for those who apply after December 15 for June commencement and after February 15 for August commencement)	3.00
Graduate student service fee (for graduate students using University facilities without formal registration for University classes) per semester	Minimum tuition
General College two-year terminal certificate	6.00
Identification photo	1.00
Change of registration fee (for each change slip presented after the first two weeks of each semester)	5.00
Change of grade fee (unless the change is the responsibility of the University)	3.00

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Exemption examination to exempt a student from taking a required class:	
If examination is taken with a group	2.00
If examination is taken alone	5.00
Examination, special equivalency:	
Nonrefundable fee to take exam	10.00
Per credit-hour charge upon successful completion of exam (the maximum fee in any one subject shall not exceed \$60.00, but will be reassessed for each additional credit authorization form.)	10.00
Examination, repeat foreign language, for advanced degree	10.00
Duplicate activity card	4.00
Spouse activity card (nonrefundable)	10.00
Transcript fee	1.00
(\$1.00 for first copy on every order, plus \$.50 for each additional copy)	
Automobile and motorcycle registration* and parking fee:	
Zone B Academic Year	12.00
Zone B Second semester or Summer School	6.00
Zone B Second Session of Summer School	3.00
Zone C Academic Year	6.00
Zone C Second semester or Summer School	3.00
Zone C Second Session of Summer School	1.50
Zone D Academic Year	6.00
Zone D Second semester or Summer School	3.00
Zone D Second Session of Summer School	1.50
*Registration is mandatory and no fee charged if student elects to NOT park on campus.	
Bicycle registration	1.00
Traffic violation fines	Variable, according to violation
Thesis binding (4 copies)	11.00 to 15.00
Hold placed on credits for unpaid bill	1.00
Records search fee	1.00

Fees for Instruction in Music

Music 159p, 160p (30-minute lessons)	\$ 55.00
Music 360p, 660p (45-minute lessons)	75.00
Solo or joint recital fee	25.00

Refunds—Fees for Instruction in Music

Students who withdraw from registration for private instruction before the semester begins or during the first week of the semester will receive a refund of the total amount paid.

Students who withdraw after they have begun their private instruction will be charged 10 percent of the total fee, the full cost of each lesson taken or each lesson missed without notifying the teacher, and one-half the cost of the remaining lessons in the course.

Applications for refunds are made at C-550 Franklin S. Harris Fine Arts Center.

Fees for Departmental Facilities and Services

Business Management 380 and 381	5.00
Education 449, 479—8 to 10 credit hours*	45.00
Education 449, 479—4 credit hours*	25.00
Education 449, 479—2 credit hours*	15.00
*For Education fees, all students must pay a \$10.00 nonrefundable deposit with application, the balance of the fee to be paid at the time of registration. An additional \$10.00 late fee is assessed if application is completed after March 31 for Fall Semester and October 31 for Spring Semester. The \$10.00 late fee is not refundable under any circumstances.	
Education 569, 673—4 credit hours*	25.00
Education 568, 569, 673—2 credit hours*	15.00
English 15 (remedial English for juniors)	15.00
Family Economics and Home Management 370:	
Single students for one-half semester	70.00

Married students for one-half semester	40.00
(All students must pay a \$5.00 nonrefundable deposit prior to registration, the balance of the fee to be paid at the time of registration.)	
Food Science and Nutrition 265, 340	5.00
Food Science and Nutrition 110, 310	4.00
Horticulture 112 (flower arrangement)	10.00
Music 105, 107, 108 (piano)	5.00
Music 106 (group organ instruction)	10.00
Music 368, 370, 372 (woodwind, brass, and string workshops)	5.00
Nursery School:	
Smith Family Living Center, with lunch	49.50
Smith Family Living Center, no meals	30.00
Ashton House, no meals	30.00
Physical Education 128 (bowling)	10.00
Physical Education 166 (canoeing)	7.00
Physical Education 195, 196 (skiing, nonrefundable)	15.00
Recreation Education 502 (camping)	10.00
ROTC leadership laboratories (Air Force and Army)	
Academic year	14.00
Spring Semester	7.00

Rentals

Organ rental, one hour each day, per semester	\$10.00
Each additional hour each day, per semester	8.00
Harpsichord, clavichord rental, one hour each day, per semester	10.00
Each additional hour each day, per semester	8.00
Harp rental, one hour each day, per semester	10.00
Each additional hour each day, per semester	8.00
Piano rental, one hour each day, per semester	7.50
Each additional hour each day, per semester	6.00
Practice room without piano, one hour per day, per semester	4.50
Each additional hour each day, per semester	3.00
Recorder rental, per instrument, per semester, tenor and bass	3.00
Recorder rental, per instrument, per semester, alto	2.00
Recorder rental, per instrument, per semester, soprano	1.00

Deposits

Physical education padlock deposit (Maximum refund is \$4.00.)	\$ 5.00
Industrial education	1.00
Chemistry (each lab class)	10.00

Student Financial Assistance

Student Scholarships and Aid

Adequately prepared students are encouraged to avail themselves of the Church's substantial commitment to education seen in the programs, facilities, and faculty of Brigham Young University. The Church absorbs the general educational costs to students at BYU to the extent of over seventy percent. Beyond these general helps, particularly qualified students may also receive from BYU a loan, grant, scholarship or award.

All scholarships and awards come under the jurisdiction of the Undergraduate Scholarships and Awards Committee. Official notification to recipients is given by the President of the University. Scholarships or awards may be withdrawn at any time at the discretion of the committee if the recipient has failed to comply with the terms of his scholarship or award.

The University's student aid offerings include scholarships and awards which are given on the basis of scholastic merit through competitive application. In judging a candidate's qualifications, consideration is also given to character, leadership, and financial needs.

Scholarships. Successful scholarship applicants ordinarily have grade point averages somewhat above a 3.5 (on a 4.0=A scale) and high school students usually have American College Test scores above the 80th percentile in national college-bound norms.

Awards. A limited number of awards are available to those with outstanding leadership ability, particular talents or skills, or interest and proficiency in an academic discipline. Colleges and departments which participate in the awards program by reviewing candidate files and making recommendations to the Scholarship Committee include the following:

College of Biological and Agricultural Sciences: Agriculture, Microbiology, Botany, and Zoology.

College of Business: Accounting, Business Education, Business Management, Economics.

College of Education: Elementary Education, Secondary Education, Special Education.

College of Family Living: Child Development and Family Relationships, Clothing and Textiles, Food Science and Nutrition, Homemaking Education, Family Economics and Home Management, Environmental Design.

College of Fine Arts and Communications: Art, Communications, Speech and Dramatic Arts, and Music.

College of Humanities: English, Humanities and Comparative Literature, Foreign Languages, Latin-American Studies, Linguistics.

College of Industrial and Technical Education: Technical Institute, Industrial Technology, Industrial Education, Aerospace Studies, Military Science.

College of Nursing: Nursing.

College of Physical and Engineering Sciences: Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Chemistry, Geology, Mathematics, Physics, and Statistics.

College of Physical Education: Health and Safety Education, Intercollegiate Athletics, Physical Education (men and women), Recreation Education, Youth Leadership, Dance, Intramural Sports, and Prephysical Therapy.

College of Social Sciences: Anthropology and Archaeology, Asian Studies, Economics, Geography, History, International Relations, Political Science, Psychology, European Studies, Sociology, and Law Enforcement.

Financial Need Analysis. Students who wish to document personal or family financial need are advised to complete the appropriate part of the application form and to submit either the Family Financial Statement from the American College Testing Program or the Parent's Confidential Statement from College Scholarship Service.

After a candidate has first qualified scholastically for an award, his financial need as demonstrated through the FFS or PCS may influence the amount and/or the duration of the award.

Scholarship Offerings. Scholarship offerings are specifically described in student financial aid literature which is available upon request, and include four-year awards covering educational expenses, tuition and fees plus an allowance for books, and tuition and fees only. One-year scholarships or awards for tuition and fees, tuition, or part-tuition are available. Recipients of yearly scholarships are encouraged to excel academically so as to qualify by reapplication for awards in subsequent years.

With the exception of occasional second semester and summer school scholarship programs, scholarship appointments are for a full academic year or for four years and recipients are expected to continuously use the scholarship without interruption. Those entering missionary or military service who are in good standing may request that the unused balance of their awards be reserved for their reenrollment at the University. This is done by filing an official deferment form with the Scholarship Office.

Scholarship Application Deadlines. Application deadlines are:

High school students	March 1
BYU continuing students	April 15
College transfer students	July 1

ROTC Financial Aid. Both AROTC and AFROTC four-year program students are eligible for financial support on a competitive basis. Selected students receive all tuition, fees, and associated costs as well as \$50 monthly subsistence and \$75 to cover book costs. Interested students should visit the appropriate ROTC office.

Division of Continuing Education Scholarships and Awards. Scholarships and awards are offered by the Home Study and Evening School Departments as well as the Centers for Continuing Education. Applications may be secured from the Scholarship Office or the sponsoring departments.

Danforth Graduate Fellowships. Fellowships are available to outstanding graduating seniors who plan college teaching careers and plan to study for the doctorate or other appropriate terminal degrees. Applicants, male or female, either single or married, must be less than thirty and show outstanding academic ability. Fellowships are open to persons of any citizenship for study in U.S. graduate schools.

Danforth Fellowships may be held concurrently with many of the other national fellowships; when this is the case, the Danforth Fellowship will be without stipend until the other fellowship lapses.

The present maximum annual stipend is \$2,400 for single students, \$2,950 for married students, plus dependency allowances for children and tuition/fees.

The BYU Liaison Officer may nominate five students to the Danforth Foundation by November 1. All interested students should contact the Liaison Officer, Dr. C. Terry Warner, 436 JRCL, by October 15. All applicants must take the GRE on or before October 25.

Woodrow Wilson Fellowships. Fellowships are available to outstanding graduating seniors in the humanities and social sciences planning college teaching careers. Candidates in mathematics and science, if U.S. citizens, must apply simultaneously for an NSF Fellowship and must accept it if that award is offered. Grantees must not be registered in graduate school at the time of nomination by a faculty member, must hold a bachelor's degree at beginning of tenure, and

must attend graduate school at a university other than the undergraduate institution.

The stipend is \$2,000 plus tuition, fees, and dependency allowance.

Applicants must be nominated to the foundation by a University faculty member by October 20. Upon nomination, the student will receive the application forms from the foundation. Applications must be completed and returned by November 15, and a list of outstanding applicants, or Woodrow Wilson Designates, will be made in January. On April 15, the foundation will publish the names of those designates being offered Woodrow Wilson Fellowships.

Scholarships for American Indians. Assistance in obtaining American Indian scholarships and awards may be obtained by contacting the BYU Indian Education Center.

Grants-in-Aid

Through the Student Financial Aids Office the University awards a limited number of grants-in-aid to deserving students who have maintained a commendable academic record and who are in critical financial need. Grants-in-aid, as well as scholarships, are applied toward the payment of tuition and general fees.

Athletic Grants-in-Aid. The University also awards grants to selected athletes who qualify under the rules and regulations of the Western Athletic Conference. These grants may include part or all of the students' commonly accepted educational expenses as defined by the NCAA. A student athlete must meet either of the following recommendations:

- a. If a freshman, he must have been rated academically in the upper two-thirds of his high school graduating class. For the first year such an award will be made for the entire school year.
- b. If not a freshman, the student must be in good academic standing and not on probation. Such an award will be made on a semester basis.

Student Loans and Financial Aids

A student entering the University should have made financial arrangements to cover his school expenses and should have on hand enough funds to cover his obligations during at least the first semester. Limited funds are available to help students remain in school when financial emergencies have arisen and personal or family resources are not available.

Short-Term Loans. Short-term loans are available for emergency assistance for tuition, books, fees and other school expenses to full-time day students. These loans are made in small amounts for immediate requirements. Repayment is required as quickly as possible and within the current semester. Such loans are intended primarily for students who will have sufficient resources to carry them through the year but who may not have these resources available early enough to make the required payments for tuition, books, fees, and other school expenses.

Church Student Loan Fund. The Church of Jesus Christ of Latter-day Saints sponsors a long-term loan program to assist students to continue their educational programs at BYU without interruption. Through this program loans may be made to worthy full-time students who have financial need for tuition, books, fees, and other school expenses in excess of savings, part-time earnings, or parental support. Loans may be made each academic year not in excess of \$200 for freshmen, \$400 for sophomores, \$500 for juniors, \$500 for seniors, and \$500 for graduates. The maximum cumulative loan to any student cannot exceed \$2,100. The student may be permitted to delay making repayment until after he discontinues his full-time status at BYU.

Special Student-Aid Fund. Through the generosity of interested friends of BYU, contributions have been made and a limited fund is available to aid deserving students who are in critical need of small amounts of money and who are unable to make repayment.

Application. Information regarding financial aids and application forms is available in the Financial Aids Office. Before aid is granted, each applicant will be interviewed and careful consideration will be given to his needs.

Student Employment

The Campus Employment Office assists students in finding part-time employment, including help not only in placing them in positions on the University campus but also in finding part-time employment off campus.

Students are encouraged not to attempt to earn their entire way through school. Such a program leaves little time for academic work. Furthermore, it is important to note that there is a limit on the number of hours which a student may work on campus.

Students needing employment are urged to register with the Employment Office as soon as possible after they arrive in Provo and are available for work. Need weighs heavily in deciding who will receive leads for jobs. Hours available and possession of skills required by employers also are very important. Inasmuch as the number of students seeking part-time work is very high, those whose need is great are requested to report at the Employment Office periodically after filing their initial applications.

Students from foreign countries are required to obtain a work permit before they may accept employment. Such students may receive assistance from the foreign-student adviser in obtaining the necessary permit.

Estimated Cost of Attending BYU

The expense of a year's study at Brigham Young University is surprisingly reasonable. It will depend a great deal on how much a student can spend or wants to spend. Basic minimum costs for a two-semester school year are as follows:

	LDS Member	Nonmember
Tuition and fees	\$ 500	\$ 750
Books and supplies	125	125
Board and room	705	705
Personal expenses	150	150
	<u>\$1,480</u>	<u>\$1,730</u>

The average college expenses at public and private colleges for the nation are nearly \$2,500. As a general rule private college costs are higher.

The estimate above does not provide for an automobile or clothing or transportation from distant points. The cost will obviously vary with married or single students and with young men and young women. For those doing their own housekeeping, either on or off campus, the cost of board and room can be materially reduced. Except for those who travel back and forth to their homes each day, an automobile is unnecessary and often a hindrance to proper study.

Student Housing

Learning to live harmoniously with other people under the right kind of living conditions plays a vital part in a college education. Students living in groups, working, studying, and enjoying recreation together gain much from each other. The conversations, good fellowship, and activities experienced in group living contribute to a person's whole development. Participation in democratic, self-governing living activities brings about a phase of education which can be gained in no other way.

The Office of Student Housing, established to assist students with their housing needs, is located in C-141 Abraham O. Smoot Administration and General Services Building (ASB). All inquiries or administrative problems relating to housing needs should be referred to this office.

Campus Housing

Residence Hall Supervision

Campus housing is organized into five areas: Housing Administration, Deseret Towers, Helaman Halls, Apartment Living for Women, and Married Students' Housing. Each area is under the supervision of a person with professional training and experience for this type of work. Under these individuals, each residence hall is directed by a competent adult head resident who lives in the hall. (This may be a couple or a single woman.) Assisting each head resident are several senior residents—mature, advanced students—who live with the student groups. This gives each student a close contact with the residence hall staff. Each student is known personally by the staff and has someone immediately available to assist him with normal student problems. The residence hall staff carries out a residence hall program designed to provide each student with experiences in democratic self-government, development in acceptance of responsibilities that go with maturity and independence, and assistance in learning the art and science of human relationships in working and living with others. The staff assists the students to achieve a sense of belonging and to develop social competence through planned social and recreational programs. Head residents are available for general counseling, and they carry out the residence hall program in cooperation with other University academic services.

Applications

A student who plans to enroll at the University and live in a University residence hall should make inquiry to the Office of Student Housing about a year in advance. A housing application form will be sent to each inquiring student. A \$10.00 application fee is required and should be enclosed with the completed application form when it is returned to the Office of Student Housing. A residence hall assignment and appropriate agreement forms are prepared on a basis of the date of receipt of the application form by the housing office and are mailed in the late spring and early summer.

Acceptance to University

The validating of any campus housing reservation is contingent upon the student's official acceptance and admission to the University. For admission to the University contact the Admissions Office, A-183 ASB.

Rental Agreements

A student planning to live in campus housing may expect to sign a rental agreement for the accommodations he will occupy. He should be prepared to live by the terms of this agreement once he has signed and returned it to the Office of Student Housing. Misunderstanding and financial loss can be avoided by a student if he will read and familiarize himself with the terms of the agreement before signing it.

Time of Arrival

Residence halls are not open to students prior to the announced opening date, which is usually the day before freshman orientation begins. The University does not advise students who are going to live in campus housing to arrive before that date. It is unwise for students with nothing to do to live in a hotel or motel room where there is no University supervision.

Apartment Living for Women

Housing for women is provided in 24 Heritage Halls. These are apartment-type buildings, and each apartment consists of a combination kitchen-dining-study room arrangement, three bedrooms, and a bath. In addition, there are large living rooms, a recreation room, head resident apartment, and laundry and storage facilities in each building. Six girls occupy an apartment and live cooperatively, preparing their own meals. The apartments are completely furnished except for bedding, kitchen utensils, and dishes. The facilities are excellent and offer a high standard of living for college students. The approximate annual rate for these accommodations is \$320. Food is purchased cooperatively by the residents of each apartment.

Help in the homemaking experiences of budgeting, buying, meal planning, and the selection, care and construction of clothing is available from specialists who are assigned to Heritage Halls. In addition, a specialist is available to assist students in planning social activities, developing recreational skills, and learning wise use of leisure time.

Each woman student desiring to live on campus should consider carefully the type of accommodations desired in view of her economic needs, time available for activities within her housing situation, and type of experience desired. Agreements are made for the academic year, and moving from one type of accommodation to another during the year is difficult to arrange.

Residence Halls for Men and Women

Board-and-room services for men and women are provided in Helaman Halls and Deseret Towers. Helaman Halls provide five halls for men and three for women; Deseret Towers provide four halls for men and two for women. Each hall contains student rooms, study rooms, reservation areas, central shower areas, adequate laundry and storage facilities, and a head resident apartment. These halls provide some of the best student living experiences offered on any university campus. The central buildings feature spacious cafeterias, dining rooms, snack bars, reception areas, offices, post offices, and vending facilities for the entire residence hall area. The approximate annual rate for a double room is \$785 and a single room is \$835.

Graduate Halls for Men and Women

Board-and-room services are provided for a limited number of single graduate men and women in Deseret Towers. These facilities are adequately equipped and provide for specialized needs of the graduate students. The approximate annual rate for these accommodations is \$785 for a room with two occupants and \$835 for a private room.

Apartments and Homes for Married Students

Family accommodations for married couples and their children are provided in housing developments known as Wyview Village and Wymount Terrace. All units in married students' housing are assigned according to family sizes.

Wyview Village consists of 126 prefabricated homes purchased from a federal government air base and moved to a site adjacent to the campus. There are 83 two-bedroom and 43 three-bedroom homes. The monthly rental rates are approximately \$57.50 for the two-bedroom and \$62.50 for the three-bedroom homes. In addition, each family pays its own electricity costs.

Wymount Terrace consists of 432 apartments and includes 24 residential buildings, an administration building, and three laundries. There are 108 one-bedroom units, 60 one-bedroom-study units, and 258 two-bedroom units. The monthly rental rates approximate \$72.00 for the one-bedroom units, \$78.00 for the one-bedroom-study units, and \$82.00 for the two-bedroom units. In addition, each family pays for its own electricity. Each apartment has a balcony or porch overlooking the inner court play area. The units are furnished with a gas range, electric refrigerator, and drapes for all windows.

This housing area fills a need of the Brigham Young University campus by providing attractive, modern, well-located, and competitively-priced housing units to further guarantee a pleasant school experience for its students.

Residential Housing

It is a policy at Brigham Young University that all students who live off-campus are required to reside in University-approved housing. The University has formulated minimum specifications which all rental units in the Provo area must meet in order to accommodate BYU students. During the school year all rental facilities listed with the Residential Housing Office are inspected and classified according to their physical condition and arrangement.

The Residential Housing Office maintains a complete listing service of all approved rental facilities in the Provo community. Listing cards are kept up-to-date, giving complete and detailed information about each rental unit.

Presently, residential living facilities consist of approximately 5,600 rental units which will accommodate over 14,500 students. These student living spaces are located in modern apartment houses and privately owned homes. The accommodations are comprised of apartments, sleeping rooms, and board-and-room services. The University requires the landlord to have supervisory personnel, whose responsibility it is to ascertain that proper living standards are maintained.

Rates

Rates for residential housing accommodations vary with the type of service provided; consequently, only a general indication can be given here. Sleeping rooms rent from \$20.00 to \$35.00 per month. Apartment accommodations run from \$20.00 to \$50.00 per month per student. Board and room is available at the rate of \$55.00 to \$80.00 per month. Apartments for married students can be obtained at a rate of approximately \$55.00 to \$130.00 per month.

Student Personnel Services

The Student Personnel Services offices are responsible for the following areas of University life: academic standards, counseling service, counselor for women, foreign-student adviser, orientation, scheduling of University facilities, student health service, student organizations and social life, student publications, University standards, and veterans' affairs.

Dean of Students

The dean of students is the chief administrative officer of Student Personnel Services. He initiates and recommends to the President and the Administrative Council needed policies and procedures in student life. He administers the program and coordinates the agencies at work on student problems.

Academic Standards

Students at Brigham Young University are expected to attain the following minimum grade-point average for their particular class in school:

Freshmen (students who have accumulated 31 semester hours of credit or less) are required to maintain a 1.75 (C-) grade-point average in order to be considered in good academic standing.

Sophomores, juniors, and seniors are required to maintain a 2.00 (C) grade-point average on all work beyond the first 31 semester hours of credit.

A student receiving a degree from Brigham Young University must have earned a cumulative grade-point average of 2.00 on all college work as well as on BYU work only.

Grade-point averages are computed on the following basis: "A" equals 4 grade points; "B" equals 3; "C" equals 2; "D" equals 1; and "E," "WE," and "UW" each equal 0.

Categories of academic status are as follows:

Warning. A student whose BYU cumulative grade-point average is above 2.00 (C) but whose grade-point average for the last semester was below the minimum required (1.75 for freshmen and 2.00 thereafter) will receive academic warning.

Probation. A student whose BYU record does not meet the minimum requirement and whose record shows a shortage of grade points will be placed on academic probation. If a student is on academic probation, he may be subject to academic suspension at the end of any semester in which he fails to decrease his deficiency of grade points. Students who are on academic probation are expected to attend all classes for which they are registered and to meet every class period unless extenuating circumstances exist.

Suspension. A probationary student carrying a full load will be suspended from the University if his cumulative record at BYU shows a shortage of grade points from that required (1.75 for the first 31 semester hours and 2.00 for all remaining hours), and he has not made a four grade-point improvement during his current semester.

A student, whether on probation or not, will be subject to suspension if the Academic Standards Committee at any time determines that he is deficient in his academic achievements.

When a student is academically suspended from the University, the Academic Standards Committee may designate the fields in which his preparatory work must be taken in order for him to be readmitted.

Readmission. A student who has been suspended from BYU for academic deficiencies may qualify for readmission by complying with one of the following plans:

1. He may complete ten semester credit hours of Home Study or correspondence work with a 2.5 grade-point average or above in each course.
2. He may complete 15 credit hours or more taken all at one time at another institution of higher learning while earning a 2.5 grade-point average or above.
3. He may demonstrate to the Academic Standards Committee, during a personal interview when at all feasible,
 - a. That he has had equivalent preparatory work or activity of an academic nature since being suspended from BYU, which may substitute for one of the two above-mentioned alternatives.
 - b. That there were extenuating circumstances, such as major illness or serious accident, that prevented him from an equal opportunity with other students to compete academically.

A student may appeal to the Academic Standards Committee for readmission as many times as he desires. A decision by the committee to readmit or to deny readmission to a student is based upon the student's past record, test scores, and academic activities since being suspended. Special consideration is made for students who have been placed on academic suspension and then fulfilled a full-time mission for the Church.

Students who have been suspended academically a second time are denied further enrollment unless there were extenuating circumstances leading to the academic dismissal.

Honor Code

At Brigham Young University, **honor** has traditionally been understood as voluntarily living in accordance with the principles of The Church of Jesus Christ of Latter-day Saints. This is the standard of Brigham Young University.

The Church sponsors BYU for the principal purpose of providing for its members and other interested persons an opportunity to obtain a university education in an atmosphere consistent with Church ideals, principles, and goals. We believe in being an ensign of proper conduct to the entire world. **Acceptance of admission at BYU is therefore a voluntary commitment to uphold Church standards, whether on or off campus, during all periods of enrollment.**

Evolving directly and immediately from this commitment is the responsibility to familiarize oneself with the standards to which he is committed.

Code of Student Conduct

Students who enroll at Brigham Young University are expected to maintain and contribute to high standards of honor, integrity and morality, and consideration for others in personal behavior, and to apply Christian ideals in everyday living. The Code of Student Conduct applies to BYU students, both members and nonmembers of The Church of Jesus Christ of Latter-day Saints, and extends to a student's life both on and off campus.

The University is dedicated not only to learning and the advancement of knowledge, but also to the development of ethically sensitive and responsible persons. It seeks to achieve these goals through a sound educational program and sound policies governing student conduct which encourage individual responsibility and maturity.

Disciplinary action may be given for

1. Failure to live high moral standards of The Church of Jesus Christ of Latter-day Saints, including observance of the law of chastity.

2. Dishonesty, including cheating, plagiarism, or knowingly furnishing false information to the University or other constituted authority.

3. Forgery, malicious destruction, damage, alteration, or misuse of University documents, records, or identification, including library materials.

4. Obstruction or disruption of teaching, research, administration, disciplinary procedures, or other University activities, including its public service functions, or of other authorized activities on University premises.

5. Physical abuse of any person on University-owned or supervised property or at University-sponsored or supervised functions, or conduct which threatens or endangers the health or safety of such person.

6. Theft or damage to property of the University, of a member of the University community, or of a campus visitor.

7. Unauthorized entry to or use of University facilities.

8. Vandalism, stealing, or kidnapping committed either on or off campus.

9. Violation of University policies or regulations concerning the registration and/or functioning of student organizations.

10. Use, possession, or distribution of narcotics or other dangerous drugs, including but not limited to amphetamines, barbiturates, hallucinogenic drugs, marijuana, and lysergic acid diethylamide (LSD), except as they may be prescribed by a licensed, practicing physician.

11. Violation of rules governing residence in University-owned housing or approved off-campus housing.

12. Disorderly, lewd, indecent, obscene, or otherwise illegal or immoral conduct or expression on or off campus.

13. Failure to comply with directions of University officials acting in the performance of their duties.

14. Failure to adhere to University standards of dress.

15. Use of tea, coffee, alcoholic beverages, or tobacco in any form.

Any pronouncement of disciplinary measures made by the President of the University becomes a part of these regulations. Violations may make the offender liable to suspension or expulsion from the University.

Tutoring Service

Brigham Young University provides through General College a tutoring service which is available to all BYU students who may need help beyond their regular classroom instruction.

This office provides opportunity for students to make contact with qualified tutors. Tutors are students who have demonstrated success and competence in the courses they intend to tutor and who have been cleared by their departments to perform this service. For more detailed information about this program contact the Tutoring Service, A-202, JKB, Ext. 3316.

Counseling Center

The director of counseling has the primary responsibility in administering Counseling Center programs, which include research and training as well as services to students. He also makes recommendations regarding policy and procedures in student counseling at the University.

The primary function of the Counseling Center is to help typical students make realistic decisions regarding their college careers. All entering students are encouraged to make an appointment with a counselor so that they may obtain his professional assistance. The Counseling Center provides services which include (1) counseling—educational, vocational, and other personal problems; (2) testing; (3) occupational information. The Counseling Center also cooperates closely with those who supervise the study and reading skills program and the University tutoring program.

Counseling. It is the policy of the Brigham Young University Counseling Center to counsel with students who can be helped in a relatively short period of time (about one semester). It is not the intent to engage in long-term and/or intensive psychotherapy, but rather to promote the adjustment of students within the University setting. A primary goal of counseling is to help maturing students accept responsibility for their own behavior.

Staff members of the Counseling Center are professionally trained in counseling psychology and related disciplines. Such training enables them to offer professional assistance with problems ranging from the selection of a major and a vocation to rather intense emotional disturbance. Students utilizing the service can be assured of reliable professional assistance and confidentiality.

Testing Services. Tests of achievement, ability, interest, and adjustment are given to all students who request them through a counselor. The data from these tests are used as a basis for counseling in educational, occupational, and personal problems. The Testing Service provides psychological test data for the use of counselors and faculty advisers, placement tests for various academic groups at the University, and assistance in the preparation, administration, and scoring of subject-matter tests as requested by various departments in the University.

Occupational Information Services. A comprehensive, current collection of essential occupational and educational information is maintained in the Counseling Center library. Current catalogs of the major universities and technical schools are also on file. These materials are available to all students seeking information about particular educational and vocational opportunities or information about employment in general.

Veterans' Service

All veterans should have their military experience evaluated for credit by applying to the Office of Admissions and Records.

War Orphans Education Program (P. L. 634). War orphans must bring a certificate of eligibility restricted to BYU before entering school under the War Orphans Education Program. This may be obtained by making application at the nearest Veterans' Administration Regional Office.

For further information concerning any educational benefits program for veterans, either currently existing or as it may become available, write to Veterans' Coordinator, Smoot Bldg., Brigham Young University, Provo, Utah 84601.

Veterans' Readjustment Benefit Act of 1966. For information concerning educational benefits available to those who can qualify under the Veterans' Readjustment Benefit Act of 1966 write to Veterans' Coordinator, Smoot Bldg., Brigham Young University, Provo, Utah 84601.

Dean of Women

Of special assistance to women students is the dean of women. She is a member of the Student Personnel Services staff and is available throughout each day to assist women students on problems related to University life.

Foreign-Student Adviser

Services of the foreign-student adviser are available to all students from countries outside of the United States. Alien students coming to the University must report first to his office, where they are expected to clear with him. This includes all types of visas.

American Indian Students

Students from Indian tribes in North, Central, and South America are urged to contact the American Indian Education Department, 180 FOB, for assistance.

Religious Opportunities

Brigham Young University students have excellent opportunities for participation in religious activities. Among the means available are the following:

Brigham Young University Stakes. The Church is organized into a number of stakes. Each stake has several wards, with each ward having 200 to 300 members. The stakes and wards are organized specifically to provide students maximum opportunity for active participation in the program of the Church. Spiritual growth and the development of a strong testimony are goals fostered by the stake and ward organizations, whose programs are closely integrated at all levels with those of the University.

All single students living away from home establish their membership records in one of the wards of the stakes. Married students not living in University housing may attend the University ward or the ward in which they reside in the city. Membership records of students remain in the BYU stakes until they terminate their schooling at the Y.

Devotional Assemblies. Devotional assemblies, held each Tuesday, enable students to hear messages of spiritual power and depth from carefully chosen Church leaders, including many General Authorities of The Church of Jesus Christ of Latter-day Saints.

Student Health Service

The Howard S. McDonald Student Health Center accommodates the health services comprised of an out-patient clinic and in-patient unit for cases requiring bed care. The center functions 24 hours daily, 7 days a week, and is available to any regularly-enrolled full-time student whose fees include these services for the semester in which he is registered. Students are seen by appointment Monday through Friday, 8:30 a.m. to 4:30 p.m. A doctor is on call after 4:30 p.m., on weekends, and holidays to see emergencies. Summer students are included. Medical care for all eligible students is limited to the facilities and personnel in the health center.

The following services are provided, some of which require an additional charge and are supplied at special rates.

1. Consultation with general physicians and specialists, by appointment in the health center during regular clinic hours, 8:30 a.m. to 4:30 p.m. For physician appointments there is a \$2.00 charge. This includes a specialty clinic in orthopedics, general surgery, gynecology, internal medicine, chiropody, and ear, nose, and throat.
2. First-aid treatment at any time.
3. Immunization of all types. Minimum charge except for smallpox, diphtheria, and tetanus.
4. Bed care in the Health Center as recommended by a physician at a minimum charge of \$14.00 per day.
5. Within the limits of its personnel and facilities and at the discretion of the director, the treatment of chronic diseases suffered by students.
6. Limited care and treatment by nurses (no charge).
7. Drugs on prescription of a physician (minimum charge).
8. Special diagnostic laboratory tests (minimum charge).
9. X-rays for a nominal fee.
10. After-hour calls made by a physician in the clinic. The student pays \$5.00 minimum for each call plus emergency room charge.
11. Rental of crutches or other equipment (minimum charge).
12. Immediate notification of parents or guardian by letter or by phone by the health center when a student is taken ill and requires hospitalization.
13. Physical therapy (minimum charge).
14. Skin testing for allergies and tuberculosis (minimum charge).

Services not available are these:

1. Major surgery, and off-campus hospitalization and medical care.
2. Dental Service.
3. Obstetric service.
4. Eye refractions, glasses, prosthesis, hearing aids, etc.

In the instance where physical examinations are required for participation in certain courses or activities, the student is responsible for providing the necessary physical examination prior to the time that he registers for the course. Such examinations must be obtained by the individual student at his own expense.

Student Health and Accident Insurance Program

To complement the services of the Student Health Center, a supplemental insurance program to take care of a student at school or away from school is offered to all full-time students. This voluntary program is fully endorsed by the University and provides for a wide range of medical services at minimal costs. Students not otherwise protected by a health insurance plan are urged to accept this excellent plan specifically designed for our students.

Information regarding the student health and accident insurance program, along with information regarding insurance for dependents of married students, may be obtained from the health center.

Student Activities and Organizations

The Wilkinson Center serves as the hub of student activities on campus. Within this building are many meeting rooms, plus facilities for movies, dances, banquets, and bowling. In addition, a photo studio, post office, lost and found, hobby center, and student art gallery are located in the Wilkinson Center.

Associated Students of Brigham Young University. Associated Students, an organization composed of all students who attend Brigham Young University, is presided over by officers elected by the students. These officers meet together as the executive council, whose purpose it is to legislate for the associated students and to represent the student voice to the entire University community. Members of the executive council serve as members of many different University committees, such as the University speakers committee, the athletic council, the Bookstore board of directors, the University traffic and safety committee, University appeals committee, etc.

The individual members of the executive council are the student body president, executive vice-president, and the vice-presidents of academics, athletics, culture, finance, organization, social, student relations, and women's activities. Each vice-president, in addition to his responsibilities on the executive council, conducts an activity program within his own particular area. Examples of these programs are Winter Carnival, Y Day, Preference Ball, fashion shows, Jazz Week, Hyde Park free forum, dances, concerts, etc.

Student Publications. Student-edited publications are sponsored on the University campus. Several excellent departmental and college journals give students an opportunity to publish their own writings.

"The Daily Universe," the student newspaper, is published daily during the regular semesters of the school year; "The Summer Universe" is published twice weekly during Summer School. More than 60 students staff the editorial, advertising, reporting, photographic, and business positions necessary to publish the paper.

The "Banyan," named for an oriental tree which symbolizes widening friendships found on campus, is the students' photographic record of each year. Valuable training in writing, editing, photography, art, and publishing is gained by the 50 members of the staff necessary to publish a 496-page book.

The student directory, a listing of all students, faculty, and administrators, as well as student and Church organizations, is also published by a student staff.

Clubs and Other Student Organizations. There are, on the Brigham Young University campus, more than one hundred and fifty different clubs and student

organizations. The range of interest and purpose of these clubs is broad. Categories of clubs for both men and women would include geographical organizations, service clubs, student political groups, pep groups, honorary organizations, social-cultural clubs, and national-international organizations.

All student organizations on the campus conduct their affairs in accordance with a basic philosophy designed "to provide for a broad program of social, cultural, and recreational opportunities in which students are encouraged to participate." Membership is open to students who qualify and remain qualified according to the regulations set up by each organization. All students are urged to become affiliated with some group and thereby derive the benefits that only group experiences can bring.

Orientation

The orientation program is designed to assist the student to have an adequate personal, social, and academic adjustment to Brigham Young University by identifying for him the framework of the University within which he must function.

In order to achieve this objective the orientation program focuses on the following areas:

- a. Helping the student feel that he belongs; that he is a member of an institution interested in him as an individual and in his reaction to his total college environment religiously, socially, and academically.
- b. Helping the student to learn more about himself, his goals, and his reasons for wanting a college education; also, assisting him in making relationships with his fellow students satisfactory.
- c. Helping the student to become receptive to his learning experience; using small discussion groups to help students develop healthy attitudes toward tools of learning and academic courses.
- d. Giving the student information concerning registration procedures; arranging meetings with college deans and faculty advisers as an important aspect of the orientation program.

Special Academic Programs

Summer School

Brigham Young University offers two five-week terms of credit courses during the summer. In Summer School more than one thousand University courses are offered by practically all undergraduate colleges and the Graduate School to students wishing to begin, continue, complete, or enrich their formal education.

All facilities of the University are available during the summer terms. Credit and noncredit workshops, seminars, conferences, and institutes are offered during the summer. A summer convocation is held at the end of Summer School in August.

To supplement the regular faculty, outstanding educators and recognized authorities in various fields are at BYU to teach classes and add to the academic offerings. In addition to the regular scholastic program, a rich program of lectures, musicals, plays, etc., provides a wide variety of culture. Devotional and forum assemblies are held each Tuesday and Thursday morning, with General Authorities of the Church and outstanding authorities in various academic fields as the speakers.

Attending school during the summer has become popular because students can gain valuable college credits and at the same time enjoy the vacation extras which are offered because of the location of the University in the heart of scenic America. A Summer School bulletin is printed annually and is distributed upon request to the Summer School Office, C-356 ASB, Brigham Young University, Provo, Utah 84601.

Honors Program

C. Terry Warner, Director

The Honors Program seeks to assist students with unusual promise to achieve the maximum benefit from their university experience. Among the specific opportunities and challenges which are offered to superior students are the following:

1. Flexibility in programming insofar as course prerequisites, load limits, and general requirements are concerned.
2. Close association with stimulating teachers and capable students in small sections of many general education courses.
3. An interdisciplinary approach which encourages broader, integrated learning. (See General Education Honors section.)
4. Independent research and creative activity in the fields of primary academic interest.
5. Rewarding extracurricular association with teachers and other students in the program.

In general, the Honors Program hopes to enrich rather than shorten the superior student's academic experience. Special emphasis is placed on honors work in general education. Every semester about forty honors sections in general education are offered, in which, because of the small size of the class, the instructor can give personal direction to each student.

Admission

Students seeking admission to the Honors Program may obtain application forms and instructions from the office of the associate director. Since the number entering the program each year is limited, early application is important. Prospective freshmen should have applications and supporting papers in the hands

of the director at least five months prior to the opening of their first collegiate term; only in exceptional cases can applications filed during the summer be considered for fall registration.

Those applying must show unmistakable evidence of academic promise on the basis of tests, grades, and recommendations. Special consideration is given to those who include scores on National Merit, College Board, ACT, or similar tests as part of the application. While most applicants are prospective freshmen, a student may enter the program at any time prior to the first semester of his junior year.

Scholarships

While the majority of participants in the program hold academic awards of one kind or another, a number of honors scholarships are available each year to especially well-qualified applicants. These pay for tuition and fees and are renewable for four years. To be considered, a student must file an application to enter the Honors Program along with a general application for scholarship aid.

Registration

Registration for honors students will follow the established University procedure each semester with the following exceptions:

1. Honors students register during the first day of registration.
2. They obtain class cards for honors sections from the director of the program rather than from the departments involved.

Advisement

Each student in the Honors Program is assigned to a faculty adviser prior to his first semester's registration. If he has selected a major field, the adviser will be in that or a closely related field; however, it is not necessary to designate a major on entering the program, and changing the major after admission is permissible.

It is the student's responsibility to meet with his adviser prior to or in connection with each registration and as frequently on other occasions as his academic or other needs require.

Course Criteria

The following criteria have been established for honors courses whose primary function is to satisfy the **general education requirements** of the University:

1. General education for nonmajors rather than accelerated coverage for majors or minors.
2. No specialized prerequisites beyond admission to the Honors Program.
3. Admission restricted to students in the Honors Program except that other students with high academic records may be admitted with the written permission of the instructor if space is available.
4. Differentiation from nonhonors courses primarily in organization and method rather than in gross work load required of the student.
5. Grading so that work of comparable quality receives the same grade in honors as in corresponding nonhonors classes.

The following criteria have been established for honors courses whose primary function is to satisfy **departmental requirements**:

1. Accelerated coverage or more extensive coverage for majors, minors, or others with a special interest in the subject.
2. Admission by prerequisites or departmental screening.
3. Grading so that work of comparable quality receives the same grade in honors as in corresponding nonhonors classes.

It being recognized that uniformity of standards is very difficult to obtain in a program involving several dozen departments and teachers, students in honors sections are encouraged to discuss with their teachers what may appear to be deviations from the above criteria and to bring what seem to be particularly serious problems to the attention of the directors.

Additional information regarding honors work at BYU is available in a brochure which may be obtained by writing to Honors Program, 436 JRCL, Brigham Young University, Provo, Utah 84601.

Institute of Government Service

The Institute of Government Service offers graduate studies leading to the Master of Science degree in the fields of public administration (state and local government and national government) and the Master of Arts degree in international administration. The aim of the program is to provide training for those students who wish to prepare for service in local, state, federal, or international governmental activities, international trade, or who plan further advanced graduate work in public administration. The program is administered by the director of the Institute of Government Service. Program policy is formulated by the director and an advisory committee composed of representatives of the Departments of Political Science, History, Sociology, Psychology, Economics, Geography, English, and languages.

For information concerning course outline refer to Graduate School Catalog.

Prelegal Course

There is no single prescribed prelaw program. A student may major in any one of several fields as basic preparation for law school. The prime requisite of a successful lawyer is a well-disciplined mind. He must be capable of embracing complex situations—identifying subtle distinctions and appraising arguments. He also must be able to weigh opposing considerations and be capable of sustained effort over long periods of time. To produce such a person, the college schedule should include courses intended to expand the mental powers of a student to the utmost and to bring about precision of thought.

The following important advice given by a leading law school may well be noted by prelegal students:

"Few ideas are more fallacious or harmful than the notion that it is possible to dawdle through high school and college and then make the adjustment to higher standards promptly upon entering the professional school. Essential habits of concentration and effective methods of study must be acquired and developed during the prelegal years."

In addition to the courses in general education prescribed by the University, it is suggested that a satisfactory prelegal course might be selected from the following fields: English, political science, history, economics, accounting, psychology, speech, sociology, and mathematics.

Because of the growing tendency of law schools either to recommend or demand that the entering student have a B.A. or B.S. degree, the prelegal student should plan his freshman and sophomore programs so that he may continue working to obtain a bachelor's degree.

Forums and Lyceums

Since its earliest years Brigham Young University has been bringing to its students and the community distinguished men and women in arts and letters. Forum assemblies held each Thursday morning feature speakers and artists who can offer students a better understanding of our contemporary civilization. The lyceums are evening programs of great cultural value. During the 1968 and 1969 Summer Sessions and the 1968-69 and 1969-70 regular school year the following were scheduled for the forum and lyceum series:

Forums

Russ Burgess	Parapsychologist (ESP)
Charles Bohlen	Former U.S. ambassador to USSR
Liz Carpenter	Author, humorist, former exec. sec. to Pres. Johnson
Neil Douglas	Explorer-lecturer, political analyst
Buckminster Fuller	Engineer, architectural philosopher
Dorothy Goldberg	Writer, lecturer, diplomat's wife
Marion D. Hanks	Member, the First Council of the Seventy, LDS Church
Dr. Albert Hibbs	NASA, "Voice of Mariner"
Mr. Colin Jackson	Member of Parliament
Madhur Jaffrey	Actress of stage, screen, and television from India
Patrick Jankin	Member of Parliament
Jenkin Lloyd Jones	Author, lecturer, editor of "Tulsa Tribune"
Dr. Herman Kahn	Physicist, director, Hudson Institute
W. W. Keeler	Principal chief, Cherokee Nation
James Kilpatrick	Columnist, "Deseret News"
Ann Landers	Columnist, "Salt Lake Tribune"
Dr. L. S. B. Leakey	Noted anthropologist
Mercedes McCambridge	Actress of stage, screen, and television
Dr. Kenneth McFarland	Number 1 public speaker in America
Roger Mudd	CBS White House correspondent
Dan Rather	CBS war correspondent in Vietnam
Rev. Bob Richards	Decathalon Olympic gold medal winner
Dr. Alfred Romer	Curator, Agassiz Museum, Harvard University
Elie Siegmeister	Composer, pianist, and conductor
Dr. David Smith	Medical director of Haight-Ashbury Medical Clinic
Dr. Leon Sullivan	Minister, Zion Baptist Church, Philadelphia
Utah Symphony	
Mark Van Doren	Poet, Pulitzer Prize winner
Rev. Richard Wurmbrand	Communist prisoner in Rumania for 14 years

Lyceums

Julian Bream	Lutanist-guitarist
Van Cliburn (soloist with Utah Symphony)	Pianist
Phyllis Curtin	Soprano
Alicia de Larrocha	Pianist
Amin Feres	Bass-baritone
Gold and Fizdale	Duo-piano
Indonesian Dance Troupe	Dance group
Byron Janis	Pianist
Orchestra Michalengelo di Firenze	Orchestra
Grant Johannesen and Zara Nelsova	Pianist and cellist
Nutcracker	Ballet
Jennie Tourel	Soprano
Veronica Tyler	Soprano
Utah Symphony Orchestra	Maurice Abravanel, conductor
Festival Winds	Chamber group

Objectives

... seek ye out of the best books words of wisdom:
seek learning even by study, and also by faith.

—Doctrine and Covenants, Sec. 88, v. 118

David O. McKay, ninth President of The Church of Jesus Christ of Latter-day Saints, stated these as the objectives of a student at Brigham Young University. As a student one should

1. Become aware of one's own ignorance and gain humility in contemplating how infinite God's creations are.
2. Increase one's knowledge, selecting those facts and truths which will be most valuable and realizing that exact and definite knowledge is always of the greatest possible value and importance to every individual who has the moral courage to use it rightly.
3. Learn that acquisition of knowledge will result only from personal effort, not from superficial study or shirking.
4. Realize the responsibility one has, because of free agency, of individual choice. The opportunity for rising above the plane of animal existence is open to all who will choose it.
5. Come to a knowledge that the purpose of life is not mere existence or pleasure or fame or wealth, but the perfection of humanity through individual achievement under the guidance of God's inspiration.

It has been the aim of the University to encourage students to realize these objectives, objectives closely allied to, and derived from, the basic philosophy of Mormonism: man, the son of God, is a free agent with unlimited possibilities for eternal development under God's guidance; a never-ending search for truth and for an understanding of the truth should be among the activities of those who aspire to perfection.

Objectives Formulated by the Faculty

The objectives which Brigham Young University has set for itself derive from the Latter-day Saints' concept of the nature of man, which places man as the offspring of God and as a free agent with unlimited possibilities for eternal development under leadership of his Heavenly Father. The noblest goals in eternal life may be achieved only when men work together, keeping the doors of opportunity open for everyone, and when they act under a sense of obligation to share with their fellowmen the most inspiring vision of life's possibilities. Therefore, man must use all possible means of coming into possession of truth. As a result of this Latter-day Saint ideal the curriculum of Brigham Young University includes the revealed word of God, the humanities, the arts, the natural sciences, and the social sciences. Man's glory is his intelligence, by which he may discover and apply truth and ultimately master the universe.

The objectives of Brigham Young University, prepared by the faculty and approved by the Board of Trustees in 1959, are as follows:

Education at Brigham Young University is directed toward the development of the whole person, whose life is balanced by many interests and activities, integrated by a knowledge of divine revealed truth, and dedicated to the service of mankind. The University strives to provide an environment conducive to such growth and sets forth the following as its major objectives:

1. To provide an atmosphere congenial to the development of true Christian ideals in which students may develop faith in God, and obtain an under-

standing of the principles of the restored gospel and a desire and resolution to make its standards the guiding light of their lives in service to the Church and their fellowmen.

2. To help students obtain an understanding of the world around us—its natural and physical phenomena, its peoples and their problems, and its heritage of wisdom.
3. To promote scholarly research among faculty and students in order to advance the frontiers of knowledge.
4. To assist students in learning to think clearly and critically and to communicate effectively.
5. To foster an appreciation of literature and the arts and to stimulate participation in creative or expressive activity.
6. To assist students in preparing for professional or occupational responsibilities suitable to their interests, aptitudes and capacities.
7. To provide continuing educational training and services to off-campus individuals and groups.
8. To encourage social understanding and personal development in preparation for the responsibilities of family life, Church service, community leadership, and basic citizenship.

General University Services

History of the University

Founding and Philosophy. Brigham Young University was established pursuant to a deed of trust executed by Brigham Young, President of the Church of Jesus Christ of Latter-day Saints, on October 16, 1875. That deed expressly set forth that the "pupils shall be instructed in . . . such branches as are usually taught in an academy of learning," and also "in the Old and New Testaments, the Book of Mormon and the Book of Doctrine and Covenants."

A group of seven persons appointed by President Young comprised the first Board of Trustees. They were Abraham O. Smoot, President of Utah Stake of the Church, which embraced all of Utah County, William Bringhurst of Springville, Leonard E. Harrington of American Fork, and Wilson H. Dusenberry, Martha J. Coray, Myron Tanner and Harvey H. Cluff of Provo, all prominent members of Utah Stake.

At a meeting November 22, 1875, the Board of Trustees organized the Academy. At that time the Timpanogos Branch of the University of Deseret had just been discontinued, and it was too late in the year to arrange a complete school year. Consequently the board decided to hold two preliminary terms of Brigham Young Academy. Warren N. Dusenberry, who had been principal of the Timpanogos Branch, was selected to become principal of the Academy. After conducting the first preliminary term, which ended April 15, 1876, he resigned to practice law.

Ten days later, President Brigham Young, acting for the Board of Trustees, requested Dr. Karl G. Maeser, a convert to the Church from Germany, to come to his office. "Brother Maeser," said the President, "I have another mission for you. We have been considering the establishment of a Church school, and are looking around for a man—a man to take charge of it. You are the man, Brother Maeser. We want you to go to Provo to organize and conduct an academy to be established in the name of the Church—a Church school."

A few days later, Dr. Maeser called at the office of President Young and said, "President Young, I am ready to go to Provo. What are my instructions?"

"Only this," replied the President. "I want you to remember that you ought not to teach even the alphabet or the multiplication tables without the spirit of God. That is all. God bless you. Goodbye."

Dr. Maeser accepted this all-embracing charge, believing that the ultimate good in education could be summed up in the words of the Master: "Be ye perfect, even as your Father in Heaven is perfect." In one of his memorable sermons, Dr. Maeser stated the real purpose of the school by saying, "Not by bread alone, neither for bread alone does man live. There are higher objectives yet to be attained, other truths to be learned, and greater work to be done." Years later, consistent with that philosophy, the school adopted as its motto this revelation of the Lord: "The glory of God is intelligence."*

Administration of Karl G. Maeser. Karl G. Maeser served as principal of the Academy from April 24, 1876, to January 4, 1892, a period of 16 years.

He had received intensive training in the excellent German schools of his time. He was a graduate of the Dresden Gymnasium and of the normal schools of Friedrichstadt, Germany. At the time of his conversion to the Church, he was Vice-Director of the Budich Educational Institute at Dresden.

Neither Warren N. Dusenberry nor Karl G. Maeser had much academic assistance at the beginning of school. When Dr. Maeser began his teaching at

*Doctrine and Covenants 93:36

Brigham Young Academy, he was principal and the sole teacher of the twenty-nine students, most of them from Utah County.

The old Lewis Building, which stood on the corner of Third West and Center Streets, was the first home of Brigham Young Academy. This building was later described by Justice George Sutherland of the United States Supreme Court, one of the Academy's first students, as being a "structure without beauty or grace or any other aesthetic feature calculated to invite a second look It consisted of one large room and a stage—both so utterly bare and gloomy as to make inappropriate any form of entertainment except tragedy."

By 1882 this building was found to be inadequate for the needs of the school, and additional rooms were built from funds provided by A. O. Smoot, Harvey H. Cluff, Myron Tanner, and W. H. Dusenberry. However, this structure was entirely destroyed by fire January 27, 1884. Temporary quarters were obtained, and the school continued with the loss of only one day of school. During the summer of 1884 arrangements were made with Z.C.M.I. for the use of the upper floor and part of the lower floor of its warehouse on University Avenue.

Members of the Board of Trustees were appointed by Brigham Young until his death in 1877, when the responsibility fell upon his heirs.

The transition of Brigham Young Academy into the University of the Church was marked by periods of great financial distress. Brigham Young died before he had provided for the endowment of the institution. This left the school without any assured source of income.

In the early days of the school, when no funds for the budget could be found, the board actually considered closing the Academy. It was then that Professor Maeser and his faculty showed their loyalty by teaching for anything they could get, including agricultural products, which were accepted from students in lieu of cash tuition.

President A. O. Smoot of Utah Stake was equally loyal. In the winter of 1887, to bolster up a shrinking enrollment, he asked each member in attendance at a stake priesthood meeting to pay the tuition of at least one student at the Academy. On leaving before the close of the meeting, he told the priesthood assembled that they might name the sum he should pay and he would abide by the decision. Members of the Academy faculty readily responded to the call. One faculty member, who was teaching his first year at a salary of twenty dollars per month, paid a quarter's tuition for one student.

On June 8, 1888, President Wilford Woodruff organized a General Board of Education of the Church, consisting of nine members. This board directed the activities of the school, but the power of appointment of the Board of Trustees still remained with the heirs of Brigham Young until July 18, 1896, when, by the adoption of the Articles of Incorporation for the University, the right of appointment was granted to the First Presidency of the Church through the consent of the heirs of Brigham Young. By this action, the Church assumed the indebtedness of the institution and accepted the responsibility of maintaining Brigham Young University.

On January 4, 1892, the school was moved to what is now known as the Education Building, the first structure built especially for the University. Much of the \$75,000 it cost was made available through the personal credit of President A. O. Smoot, a member of the Board of Trustees at that time.

Dr. Maeser's administration will be remembered primarily because of his masterful teaching. His legacy to the Church school system consisted of three ideals: (1) the acquirement of intelligence by academic studies; (2) the development of character; and (3) a reverence for the revealed word of God, together with a living testimony of the divinity of the message of the Church which he represented. He often stated that "no infidel" would go out from his school, and it is doubtful whether any did. His sermons were classics which lived with his students throughout their lives. He was the great spiritual architect of the school.

Administration of Benjamin Cluff, Jr. Benjamin Cluff, Jr., a former student of Karl G. Maeser, served as president from January 4, 1892, to December 23, 1903. He was one of the first native Utahns to earn a college degree, having received it from the University of Michigan in 1890. He influenced many young men and

women to go to larger universities in pursuit of higher learning. Some of them later became teachers at Brigham Young University.

His administration was effective in changing the school from one which was still largely a normal school, with a very small college department, to a university.

After 1892 President Cluff asked the Church authorities to provide another building to house the growing student body properly. As the Church was not prepared to furnish the money, Reed Smoot, chairman of the Executive Committee of the Board, took the initiative and secured a contribution of one thousand dollars each from Wilford Woodruff, George Quayle Cannon, Joseph Fielding Smith, Reed Smoot, Jesse Knight, Charles Edwin Loose, Alfred William McCune, Amanda Inez Knight, Stephen L. Chipman, and Jesse William Knight. The cost of the building exceeded ten thousand dollars, but Reed Smoot subscribed the additional amount to cover the expense. It was named College Building. Dedication was held in connection with commencement week in 1898.

The financial panic of 1893 further intensified the school's financial difficulties. Some of the real estate sold to clear part of the indebtedness had to be repossessed by the school, and \$30,000 was supplied by the Church to be applied on its debts. President A. O. Smoot underwrote large notes for the school to keep it operating. On his death, the trustee-in-trust of the Church, in the interest of the heirs of the estate, agreed to underwrite all notes of the Academy bearing President Smoot's endorsement.

President Cluff was instrumental in founding an alumni association in June of 1893. He gave encouragement to student organization and activity. Early in his administration two school papers were begun; athletic sports such as football, basketball, and track were encouraged; and the school colors, blue and white, were chosen. He established the first summer school and added new departments and laboratories.

In 1895 the title of the head of Brigham Young Academy was changed from "Principal" to "President," and in 1903 the school became Brigham Young University.

In 1900 President Cluff sponsored a South American expedition to engage in archaeological study of Book of Mormon sites. While he was in South America, Acting President George H. Brimhall asked the authorities for a Church normal training school building with a gymnasium on the upper floor. Jesse Knight, a member of the Board of Trustees, volunteered a contribution of \$15,000. The board promptly authorized the project. Other contributions were solicited with good results. The total cost of the Training School and Gymnasium Building was \$35,000. The dedicatory service was held February 17, 1902.

Administration of George H. Brimhall. On April 16, 1904, after having acted as President of the University while Benjamin Cluff was in South America, George H. Brimhall was appointed President of Brigham Young University. Joseph B. Keeler was appointed as his first counselor and Edwin S. Hinckley his second counselor.

Dr. Brimhall was also a former student of Dr. Karl G. Maeser. He was a dynamic speaker and also a great molder of character. He continually stressed the fact that the primary purpose of the school was to make better Latter-day Saints.

The Missionary and Preparatory Building, later known as the Arts Building, was dedicated October 26, 1904. It cost \$13,000, of which amount \$9,000 was apportioned to four stakes: Utah, Alpine, Nebo, and Wasatch.

In 1904 the students and faculty began negotiations for the purchase of seventeen acres of land known generally as Temple Hill. This land, purchased from Provo City about 1907 at a total cost of \$1,000, was the beginning of the upper campus. A survey of the land purchased showed that about one and one-half acres at the point of the hill was not included in the deed given by Provo City. The students and faculty members of the school voluntarily raised an additional \$1,000 to pay for this land.

This purchase provided a place for the Maeser Memorial Building, the cornerstone of which was laid on Founder's Day, 1909. It was ready for occupancy the fall term of 1911. The structure and furnishings cost \$130,000; the Knight family contributed \$65,000, and other members of the alumni some \$50,000. The

remainder of the cost was met through the sale of Blue Bench Irrigation Company Bonds owned by the school.

The Women's Gymnasium was erected in 1913 and the Mechanic Arts Building in 1919.

On December 21, 1914, the late Jesse Knight made an endowment to the University of one hundred thousand dollars in six percent bonds. The interest payments on these bonds, together with the payments on bonds which have matured, have been placed at interest, and the cash credit of this account now represents approximately twice the amount of the original endowment.

During President Brimhall's administration, graduate work was introduced and the first master's degrees were conferred. The school spirit was furthered by the organization of the students into a student body. Printing of the school yearbook, "The Banyan," was begun, and a huge white "Y" was placed on the mountainside east of Provo.

Dr. Brimhall served until July 1, 1921, a period of 17 years.

Administration of Franklin S. Harris. Franklin S. Harris, a former student of the institution under President George H. Brimhall, was selected to succeed his former president. Dr. Harris had received his Ph.D. degree from Cornell University in 1911 and had served as an instructor in the Juarez Academy and Cornell University, professor of agronomy for the Utah Agricultural College, director of the School of Agricultural Engineering and Mechanical Arts, and director of the Utah Experiment Station at the Utah State Agricultural College. He had a world-wide reputation as a scientist.

Dr. Harris became president July 1, 1921, and served until June 30, 1945, a period of 24 years, the longest term of any president. During his administration, academic gains of great significance were made. The University was organized into five colleges: Applied Sciences, Arts and Sciences, Commerce, Education, and Fine Arts; and the Division of Religion and the Extension Division were established. The Graduate School was formally organized and a dean of the Graduate School appointed. The Heber J. Grant Library was completed in 1925, the Y Stadium in 1929, and during the last ten years of his administration a building program was begun which has been accelerating ever since.

It was President Harris who first envisioned the present expanded upper campus of the University and indeed who made it possible by his extensive purchasing of lands surrounding the original upper campus. It was also during his administration that all members of the Quorum of the Twelve became members of the Board of Trustees.

In 1935 two stories were added to the Mechanic Arts Building to provide additional classrooms and laboratories. The name was changed to George H. Brimhall Building. During 1935-36, a Stadium House on the west side of the football field was erected. In 1937-38, Allen Hall, a men's dormitory, and in 1938-39, Amanda Knight Hall, a women's dormitory, were constructed. These buildings accommodate 90 and 130 students, respectively. The construction of both buildings was financed by borrowing from the Knight Endowment Fund. The Joseph Smith Building was begun in 1939 and completed in 1941 as a project of the Church Welfare program. During 1943 the University acquired the National Youth Administration Building on the east part of the campus for use of the Mechanic Arts Department. In 1944, because of the acute housing problem created by the building of the Geneva Steel Plant, it was equipped to serve as a temporary dormitory for women.

The University had two acting presidents during the administration of Franklin S. Harris. L. John Nuttall served from 1926 to 1927, while E. H. Holt guided the University in 1929.

Administration of Howard S. McDonald. Howard S. McDonald, the next president of the University, served from July 1, 1945, to October 30, 1949. Before being appointed to this position he had served as assistant superintendent of schools in San Francisco and later as superintendent of Salt Lake City schools.

Under his leadership the school experienced a major expansion. From 1946 to 1948 the temporary women's dormitory at the southeast end of the campus was remodeled into what is now known as Social Hall, containing classrooms and offices. During the same period Knight-Mangum Hall, a four-level structure

adjoining the Social Hall on the west, was constructed. This building first provided housing and eating accommodations for 280 women. It now houses missionaries in the language training program. Because of the enlarged postwar student body, student housing facilities were greatly increased. In cooperation with the Federal Works program, temporary housing, known as Wymount Village, was constructed in 1946-47 near the eastern edge of the campus for 200 married veterans and their wives and for 350 single veterans. Also under the Federal Works program of aid to education, temporary-type buildings were provided in 1946-47, consisting of the Physical Plant Building, Public Relations Building, North Building, Industrial Arts Building, Wymount Dining Hall, and University Press. In 1948 the Speech Department was moved to the upper campus and housed in temporary buildings. Here the Brigham Young University broadcasting station, KBYU, was located. A central heating plant costing \$200,000 was constructed in 1946.

Under President McDonald's direction the Eyring Science Center was begun and almost completed. Called by many educators the finest and most modern science building between the Mississippi and the Pacific Coast, it has four stories and contains approximately 150,000 square feet of floor space (practically the equivalent of the space of all of the other buildings of the University previously constructed). It is equipped with the finest facilities for study and research. Moreover, it is proof of the Church's sincere belief that there is nothing inconsistent between scientific truth and the teachings of the gospel.

During his administration the planning and architectural drawings of buildings for the University were assigned to a University architect. The buildings and grounds were placed under the direction of a superintendent of buildings and grounds.

In the postwar era of expanding collegiate enrollments, Brigham Young University, under his direction, expanded at a much faster rate than many other universities of the country. The faculty was increased to meet the new need. The Graduate School and the Student Counseling Service were both reorganized. As was true with his predecessors, he upheld and perpetuated the spiritual ideals of the University's academic life.

Administration of Christen Jensen. Dr. Christen Jensen acted as President of Brigham Young University during 1939-40 (when Dr. Harris spent a year in Iran) and again from November 1, 1949, until the early part of 1951. His two periods of administration were characterized by an emphasis on scholarship and a meticulous observance of proper University standards. In an era of dynamic University problems, President Jensen directed an administration characterized by academic and administrative stability and sound judgment. Under his direction the Eyring Science Center was completed and dedicated on October 23, 1950; the plans for the new George Albert Smith Fieldhouse were approved, a drive for funds conducted, and its construction practically completed at a cost of over \$1,000,000. It provides, in addition to athletic and physical education facilities, offices for faculty members in the College of Physical Education. The fieldhouse has a capacity of 10,650 persons.

Administration of Ernest L. Wilkinson. In 1950 Dr. Wilkinson was selected by the Board of Trustees as the new President. He began his period of service in February 1951.

After graduating from Brigham Young University, he was graduated from George Washington University Law School where he received his LL.B. degree. He then attended Harvard Law School where he obtained the degree of Doctor of Juridical Science. After graduation he accepted an appointment to teach at the New Jersey Law School as professor of law. Soon thereafter he was invited to become an associate in the New York City law firm of which the Hon. Charles Evans Hughes, later Chief Justice of the Supreme Court of the United States, was the senior member. Later, organizing his own firm in Washington, D.C., Dr. Wilkinson achieved a national reputation as a lawyer, climaxed by obtaining judgments of \$32,000,000 for the Ute Indians, the largest judgments ever entered in the United States Court of Claims against the United States.

As a churchman he has served as a bishop in the New York Stake and as a member of the stake presidency in the Washington Stake, and he has repre-

sented the Church on the National Commission for Army and Navy Chaplains, which approves chaplains appointed to the armed forces of the United States.

President Wilkinson was enrolled in an Army training program at BYU while a student during World War I. Following the outbreak of hostilities in Korea in 1950, he recognized the need to provide leadership opportunities so that young men attending the University could serve their country more effectively. He therefore proposed to the Board of Trustees that voluntary ROTC programs be established at Brigham Young University. Following board approval, an Air Force ROTC unit was activated in 1951. In 1968 an Army ROTC unit was also established as one of the first new Army ROTC units authorized since the University had requested one. A new ROTC building was completed in October 1968 in time to permit joint occupancy by both Army and Air Force ROTC units, and was named for Daniel H. Wells at its dedication early in 1969. Officers of both ROTC units are nominated by the Secretaries of their respective armed service and are approved by the University President. Participation in ROTC at Brigham Young University is not only largest among the institutions of higher learning in the state but is the largest voluntary ROTC participation among private institutions of higher learning in the U.S.

During his sixteen years of service, the University has experienced well over a 100 percent increase in enrollment. In 1953 the University became the largest church-related institution of higher education in the United States. The faculty witnessed an even larger proportional increase in numbers, and the five colleges, one school, and two divisions previously comprising the University were increased to thirteen colleges, one school, and one division: Colleges of Biological and Agricultural Sciences, Business, Education, Family Living, Fine Arts and Communications, General, Humanities, Industrial and Technical Education, Nursing, Physical and Engineering Sciences, Physical Education, Religious Instruction, Social Sciences; Graduate School; and Division of Continuing Education.

Throughout his administration President Wilkinson has insisted upon ever-higher standards of scholarship. Under his direction the curriculum has undergone extensive revision to eliminate subuniversity or duplicating courses, to strengthen existing courses, and to add courses needed in the expanding college program.

A notable advancement in the academic program of the University resulted from the action of the Board of Trustees in authorizing programs leading to the Ph.D. and Ed.D. degrees. Between November 22, 1957, when the first doctoral degrees were authorized, and the present date approval has been given to nineteen departments for programs leading to the Ph.D. degree in more than forty fields of study. Two departments offer work leading to the Ed.D. degree.

Among his most significant achievements was the organization on January 8, 1956, of a Brigham Young University stake of the Church. That stake has been divided into ten stakes, and the original twelve wards have been increased to about eight times that number of wards. Spiritual benefits of this program to students have been incalculable. One specific advantage is the providing of a spiritual adviser to every 200 or 300 students supplementing the regular University Counseling Center and offering a dual system of advising and counseling.

Earl C. Crockett was acting president in 1964 while President Wilkinson was a candidate for the U.S. Senate.

The laboratory schools of the College of Education at Brigham Young University were discontinued at the end of the 1967-68 school year by the decision of the Board of Trustees.

During the administration of President Wilkinson, the following new buildings and facilities have been added to the University:

The Herald R. Clark Student Service Center, begun in July 1952, was completed and made available for occupancy in March 1953. The financing of this building was primarily from income of the Students' Supply Center over its years of operations. In the building was housed the Division of Adult Education and Extension Services.

A large building project was started July 1952 with the construction of 16 buildings making up what is known as Heritage Halls. These buildings, completely modern in every respect, house 972 girls. Six girls live together in an apartment, preparing their own meals and doing their own housework. There are ten apartments to a building. Occupancy of the first of the buildings was

begun in March 1953. The entire project was completed and fully occupied by the fall quarter of 1953.

Eight new buildings to house women students were added to the original 16 buildings of the Heritage Halls group. The total project was completed in the summer of 1956 and was fully occupied for the fall quarter of that year. The addition of these eight structures brought the total accommodations for this type of housing for women to 1,548.

The Harvey Fletcher Engineering Laboratory Building, constructed in 1953 and added to in 1954 and 1955, is an H-shaped building having four wings with laboratory space for the Civil, Mechanical, Electrical, and Chemical Engineering Departments. The central core of the building consists of offices serving the needs of the teaching staff. In 1953 a temporary motion picture building with sound stage and related facilities was constructed. This building was equipped with modern animation and motion picture sound equipment for production of educational moving pictures.

The David O. McKay Building, a classroom building containing 104 offices and 31 classrooms and laboratories, was begun in March 1954 and completed in December of that same year. This building currently houses the College of Education and the language departments. In the early spring of 1955 the Benjamin Cluff Plant Science Laboratory, with two connecting greenhouses, was completed. This structure is used by the Botany, Agronomy and Horticulture Departments. The Howard S. McDonald Student Health Center was opened for use of all students enrolled at the University in the fall of 1955.

Construction of the Joseph F. Smith Family Living Center began in the fall of 1955 and was completed in December 1956. Housed in this structure are the College of Family Living, the College of Nursing, a nursery school, and the Departments of Psychology and Sociology. New housing facilities for married couples were added to the University housing projects in 1957. Wyview Village, a project consisting of 150 two- and three-bedroom homes for married students, was completed and fully occupied in the fall of 1957. Another project during 1957 was the conversion of the University heating system to a \$2,000,000 high-temperature water system.

In the fall of 1958 five residence halls, known as Helaman Halls, were completed. This project consists of residence structures housing 1,170 and one central building with dining, recreation, and business office facilities. Two additional residence halls became part of this project in the fall of 1959, bringing the total number of accommodations up to 1,638.

A permanent building for the production of motion pictures was completed in the fall of 1958. It is located in the river bottom area a short distance from the main campus. In December of 1959 the William H. Snell Industrial Education Building, containing 60 rooms for offices, classrooms, and laboratories for the Industrial Education Department, was completed. At this same time an addition to the west end of the George Albert Smith Fieldhouse was readied for use.

During the summer of 1960, the Jesse Knight Building, which houses the departments of the College of Business, was completed.

An underpass located near the "Y" Bell Tower was built in 1961 to accommodate the pedestrian traffic between upper campus and the fieldhouse.

The four-level, X-shaped Abraham O. Smoot Administration and General Services Building was completed in the summer of 1961. Also completed in the summer of 1961 was the 1,000,000-volume capacity J. Reuben Clark, Jr., Library Building which has five levels, two of them below ground.

The Alumni House, located at the brow of the hill near the main entrance to the campus, was completed in the fall of 1961. During this same period ground was broken for the Wymount Terrace housing project, which was completed in March of 1963. This project consists of three laundry buildings, an administrative office building, and 462 apartments.

The Physical Plant Building, completed in September 1962, houses all the shops which deal with the maintenance and upkeep of the campus, custodial services, and the motor pool. Modifications and an addition to the central heating plant were undertaken in 1963 to handle the expanded building program on the campus.

Completed in 1964 and dedicated on April 3, 1965, were the Franklin S. Harris Fine Arts Center and the Ernest L. Wilkinson Center. Other additions were the

all-steel stadium which seats 26,812 spectators; an addition on the east end of the fieldhouse; seven-story Deseret Towers, a cluster of five residence halls and their adjoining dining hall which house 1,350 students; the Stephen L. Richards Building with three swimming pools and four gymnasiums; Dairy Products Laboratory; a biology laboratory building; additions to the Jesse Knight Building and the Cluff Plant Science Laboratory; and another extension to the heating plant.

Extensive remodeling of the Herald R. Clark Building brought the entire Division of Continuing Education under one roof. The building is shared by Educational Media Services. The Joseph Smith Memorial Building also was remodeled to accommodate large-screen closed-circuit television classes in its auditorium, and many new offices and classrooms have been added in the building.

Campus roads and walks have been expanded and improved and as of 1969 blacktopped parking areas accommodated 10,662 cars, including 2,698 at the stadium.

There have been several buildings completed since 1967, both academic and auxiliary. Completed in 1968 were five academic buildings: an underground physics laboratory, the Faculty Office Building, the Indoor Tennis Courts Building, the Daniel H. Wells ROTC Building, and the Martin Classroom Building which seats a total of 2,204 students. An eight-story companion Life Sciences Laboratory Building will be completed in 1970. Also completed in 1968 were three auxiliary buildings, including the University Press, Laundry, and Auxiliary Maintenance Buildings. One more high-rise residence hall was added to the Deseret Towers complex in 1969. Another residence hall will be completed and ready for occupancy in February 1970 at the Helaman Halls complex.

The University Today

Recent Developments in University Administration. Since the organization of The Church of Jesus Christ of Latter-day Saints, its leadership has been sensitive to the need of continuing intellectual and spiritual growth for all its members. To meet this need, Church educational policies have constantly been modified to serve more fully the youth of the Church.

In July 1953 all Church educational institutions were combined under one administrator and president who in turn was responsible to a board of education, which consists of the First Presidency and the Council of the Twelve, for the administration of Ricks College, an academy and elementary schools in Mexico, the LDS Business College in Salt Lake City, and the institutes and seminaries of the Church, and to a Board of Trustees, consisting of the same General Authorities, for the administration of Brigham Young University. In announcing this unified plan the First Presidency said: "This great system of schools, institutes, and seminaries can become an even more effective instrumentality in equipping the youth of the Church with solid foundations to meet the challenge of modern living." It added that the Administrator and President, Dr. Ernest L. Wilkinson, "has surrounded himself with strong men to do a big job," and that "he will have at his service strength not only of these men, but of all the members of the Brigham Young University faculty."

In 1961 the title of the Administrator was changed to that of Chancellor of the Unified Church School System.

With the effectuation of the Unification Plan the administrative offices of the Church education were, to the extent then physically possible, established at Brigham Young University, making the University the mother institution for Latter-day Saint education. Upon completion of the Abraham O. Smoot Administration and General Services Building, the entire staff of the Church educational system was moved to the Provo campus.

At that time the Chancellor and President, Ernest L. Wilkinson, was assisted by John T. Bernhard, administrative assistant; William E. Berrett, administrator of institutes and seminaries; Earl C. Crockett, academic vice-president of BYU; Harvey L. Taylor, vice-president in charge of student functions and Education Weeks for BYU and the junior college program; Ben E. Lewis, vice-president in charge of auxiliary services; Clyde D. Sandgren, vice-president and general counsel; Joseph T. Bentley, comptroller; and J. Elliot Cameron, dean of students. On matters of overall policy and the above officers meet as an Administrative Council

for the purpose of advising the Chancellor and President and resolving mutual problems.

In January 1964 President Wilkinson resigned to become a candidate for the United States Senate, and Earl C. Crockett served as acting president. On December 3, 1964, Dr. Wilkinson was reappointed by the Board of Trustees as President of Brigham Young University and Chancellor of the Unified Church School System. These were separated on February 5, 1965, when Dr. Wilkinson was appointed President of Brigham Young University, and Dr. Harvey L. Taylor was appointed acting administrator of The Church of Jesus Christ of Latter-day Saints Church Schools. The term "Unified" was dropped. Under Dr. Taylor's administration are Ricks College; LDS Business College; the Church schools in Mexico, South America and the Pacific Islands; and seminaries and institutes of religion.

Brigham Young University's Administrative Council now includes Ernest L. Wilkinson, President; Ben E. Lewis, executive vice-president; Robert K. Thomas, academic vice-president; Robert J. Smith, assistant academic vice-president; Clyde D. Sandgren, vice-president and general counsel; J. Elliot Cameron, dean of students; Dean A. Peterson, administrative assistant and director of Summer School; David B. Haight, assistant to the President in charge of University Development; Heber G. Wolsey, assistant to the President in charge of communications; William R. Siddoway, dean of Admissions and Records; Fred A. Schwendiman, assistant business vice-president; Sam F. Brewster, director of Physical Plant. Ex officio member is Edwin J. Butterworth, director of Press Relations. This council is advisory to the President.

Academic Growth and Recognition. Brigham Young Academy as originally organized by Karl G. Maeser had three departments: the Academic, the Intermediate, and the Primary. Instruction was given mostly in the work of the lower grades, although a normal class was included in the Academic Department. Today the University offers a full university curriculum, and its credits are recognized and accepted to the same extent as those of other leading American colleges.

Brigham Young University is affiliated with the following educational associations:

- American Association for Adult Education
- American Association of Colleges for Teacher Education
- American Association of Collegiate Registrars and Admissions Officers
- American Association of University Women
- American College Public Relations Association
- American Council on Education
- American Home Economics Association
- American Library Association
- The American School of Oriental Research
- American Society for Engineering Education
- Association of American Colleges
- Department of Baccalaureate and Higher Degree of the National League for Nursing
- Educational Films Library Association
- National Association of Schools of Music
- National Association of Student Personnel Administrators
- National Commission of Accrediting
- National Council of Family Relations
- National University Extension Association
- Utah Conference on Higher Education
- Western Council for Higher Education in Nursing
- Western Interstate Commission on Higher Education
- Western Personnel Institute

In addition, Brigham Young University is fully accredited by the following organizations:

- Northwest Association of Secondary and Higher Schools
- American Association of Collegiate Schools of Business
- American Chemical Society
- American Institute of Design and Drafting

Engineering Council for Professional Development
 National Association of Schools of Music
 National Council for Accreditation of Teacher Education for the preparation of elementary teachers, secondary teachers, and school service personnel, with the master's degree as the highest degree approved.
 National League for Nursing
 Utah State Board of Nursing
 Utah State Department of Education
 Utah State Department of Public Instruction in cooperation with the United States Office of Education for the training of vocational home economics teachers.
 United States Department of Health, Education & Welfare—Division of Vocational and Technical Education

Growth of the Student Body. When founded in 1875, Brigham Young Academy gave elementary and high school work only. Over the ninety-two years of its existence it has become in terms of full-time equivalent students the largest university in Utah.

At the time of its organization in 1875 nearly all of the students came from Utah County and its environs. Its student enrollment began at 29. During the regular 1966-67 school year, there were on campus approximately 22,470 daytime students. This number combined with the enrollments of the Summer School, Evening Classes, and Laboratory Schools brought the total to 27,404 students. In addition, from September 1966 to August 1967 there were 95,076 enrollments in the Division of Continuing Education.

The students registered during the last few years came from all the states of the Union, the District of Columbia, the Panama Canal Zone, and 58 foreign areas. Approximately 66 percent of the students are from outside the state of Utah. As in the days of Dr. Maeser, industry and thrift are encouraged. At the present time approximately 40 percent of all students are employed in earning part of their subsistence.

Membership in The Church of Jesus Christ of Latter-day Saints is not required for admission, although at the present time 95 percent of the students are members of the Church. The other 5 percent, as a condition of their continuance as members of the student body, are required to abide by the same standards of morality and integrity as other students.

University Library

The J. Reuben Clark, Jr., Library contains the library collection, which includes approximately 900,000 bound volumes, fifty thousand pamphlets, and an extensive collection of titles on microfilm and microcards. A good selection of professional journals and other current periodicals, as well as local, regional, and national newspapers, is also available.

The library is a depository for United States, United Nations, Mexican, and Canadian government documents and regularly receives publications of state and local governments. The general library facilities are available to students, faculty, alumni, and other interested persons. Regularly enrolled students present their identification cards to borrow books. Others may obtain a permit from the circulation librarian. The library is open during the college year from 6:45 a.m. to 11:00 p.m. Monday through Thursday, 6:45 a.m. to 10:00 p.m. Friday, and from 9:00 a.m. to 6:00 p.m. Saturday. Vacation hours, when school is not in session, are 8:00 a.m. to 5:00 p.m. Monday through Friday; it is closed holidays.

The general collection and subject reference materials are available on open shelves on four of the five levels—two below and two above the ground floor. The general reference collection, the public catalog, the circulation desk, and administrative offices are located on the ground level. An informational booklet is available to assist in the use of these facilities. Study space is interspersed with stack areas on each floor.

The special collections of the library, located on the fourth level, often come to the library from individuals whose interests lead them to devote many years to their acquisition. The books and other material housed in this area are not

available for general circulation. Material within each collection is usually confined to a specific subject area.

The facilities of other libraries operated by the LDS Church are available also to students of Brigham Young University. The Genealogical Society Library in Salt Lake City contains approximately 90,000 books and over 700,000 rolls of microfilm. These include family histories, genealogy, biography and autobiography, military records, cemetery inscriptions, town, county, and state histories of the United States, and both local and national histories of other nations. The Utah Valley Branch Genealogical Library, operating under the general direction of the society, is headquartered at the J. Reuben Clark, Jr., Library.

Facilities of the library of the Church Historian's Office are available by arrangement to advanced students for research. It is located in Room 301 of the LDS Church Office Building, 47 East South Temple in Salt Lake City, and is open from 8:30 a.m. to 5:00 p.m. Monday through Friday. Its collections contain publications of the Church, periodicals of the various auxiliary organizations, reports and histories of the various missions, general history of the Church, biographies of Church leaders, and other pertinent published and archival material.

BYU Studies

"Brigham Young University Studies," begun in 1959, is a scholarly quarterly journal edited and published on campus. Providing a voice for the community of Latter-day Saint scholars, it deals with LDS thought, history, theology, and related subjects. "BYU Studies" is a serious venture into the study of the correlation of revealed and discovered truth. Dedicated to the conviction that the spiritual and intellectual are complementary avenues of knowledge, "BYU Studies" publishes articles from all fields of learning.

Science Collections

Museum of Archaeology and Ethnology. The archaeological collections of the museum consist of materials for study and research in the culture history of man in both the Old World and New World. Special areas of interest are emphasized in the museum displays, particularly those of the American Southwest and Mesoamerica. The material culture of the people who lived in Utah in prehistoric times is especially emphasized in the southwest section. Most of the artifacts displayed in the museum have been collected by members of the Department of Anthropology and Archaeology while on field expeditions.

The ethnological collections consist of materials and items donated to the museum. Collections from Polynesia, Alaska, Mexico, and the Southwest are on display. Of special interest is a display of Iroquois items reflecting their ritual and customs.

The museum continually obtains collections or individual objects from outside persons interested in supporting the growth of the museum. A monthly display is set up for the purpose of showing these new acquisitions to the viewing public.

Supplementing these materials are replicas of such famous archaeological discoveries as the Rosetta Stone—key to the decipherment of Egyptian hieroglyphics—the "Tablet of the Cross," and Stela 5, from the Mesoamerican ruins of Palenque and Izapa, respectively. There is also a basketmaker mummy of a medicine man found in southeastern Utah.

Also among the museum collections are field excavation records, photographs, site survey cards, maps, and drawings of materials excavated by archaeological expeditions of the University are examined by researchers of the Department of Anthropology and Archaeology.

These museum collections are open to the student body and the public for viewing on the first floor of the Karl G. Maeser Memorial Building.

The botanical collection includes an herbarium of fungi, liverworts, mosses, and vascular plants from many parts of the world. The mycological collection consists of more than 6,000 specimens of fleshy and parasitic fungi, most of which have been collected in the Rocky Mountain area. This represents the largest collection of its kind in the region.

The vascular plant herbarium includes over 10,000 species, represented by over 95,000 herbarium sheets. The collection is made up principally of plants collected in the western states, but many plants of the eastern states, Europe, Mexico, and South America are included as well as a good representation of the Arctic regions of Siberia, Iceland, and Alaska including the Aleutian Islands. Some 2,000 specimens recently have been added to the collection from the Mediterranean region of Europe and from the Middle Eastern countries of Iran and Afghanistan. Separate collections of poisonous plants, range plants, woody plants, and plant diseases are maintained.

The department maintains an arboretum where many trees and shrubs of various regions of North America are grown in natural association. This garden is designed as (1) an experimental project to enrich the tree flora available for use as shade trees, (2) a public educational exhibit, and (3) a study area for many classes. Several gardens also are maintained for experimental plantings.

The geological collections of the University consist of an unusually complete series of minerals which number many thousands and are representative of the great western mining districts together with hundreds of localities of note. Part of this collection once represented the nucleus of the famous Deseret Museum Collection of Salt Lake City.

The paleontological collections contain several new species of dinosaurs which have not yet been named or studied scientifically. These were found and collected by the museum curator. Fossil invertebrate materials are extensive and include new species found and described by department members.

The Earth Sciences Museum in the Eyring Science Center displays a representative selection of fossils and minerals from various world localities. An unusual free-standing mount of a carnivorous Utah dinosaur is found beside the Foucault Pendulum in the main lobby. All displays are open free to the public.

The zoological collections of the University consist of a large series of vertebrate and invertebrate species from western North America and from many foreign countries. These materials are available to teachers, advanced students, and visiting scientists.

The vertebrate collections consist of thousands of fishes, amphibians, reptiles, birds, and mammals. In addition to the representative series of local species, the vertebrate collections include the Chester Van Buren collection of South and Central American birds; the Robert G. Bee, John Hutchings, Merlin L. Killpack, Lloyd Gunther, and Ashby D. Boyle collections of birds' eggs; and the David Starr Jordan specimens of Hawaiian fishes. Staff members, graduate students, and friends of the University have contributed material from Mexico, South America, Africa, Formosa, Malaya, and the South Pacific Islands, as well as from other areas throughout the world.

The invertebrate collections include numerous specimens of insects and their near relatives as well as many representatives of the other phyla of invertebrates obtained locally and from many distant places. Medically important arthropods such as fleas, lice, mites and ticks are represented. Special collections include the Lynn and Kate Irene Meibos Collection of mollusk shells; Tom Spaulding and Ashby D. Boyle butterfly collections; and the Charles W. Leng, Charles Schaeffer and Willis Blatchley collections of beetles. Other invertebrates and the extensive collections of more than a half million insects are suitably preserved and available for research and academic purposes.

Research grants from private and governmental agencies have made it possible to add materially to both vertebrate and invertebrate collections from southern Nevada, the Colorado River Basin, other areas of the Intermountain West, Mexico, and Central America.

The Life Sciences Museum is located on the second floor of the Heber J. Grant Building. It is open to the public throughout the day. The exhibits are shown in modern, lighted display cases with removable fronts in order that they can be changed from time to time. At the present time there are exhibits of local birds, birds' eggs, a tropical habitat, mushrooms, shells, and other subjects. It is anticipated that the displays will expand in the near future as more space becomes available.

Faculty Organizations

BYU Women. All women who are full-time employees of Brigham Young University and wives of full-time employees are eligible for membership in BYU Women. Strong in tradition and prestige, BYU Women has been promoting University ideals and providing intellectual and social opportunities for its members since 1916. The program includes afternoon cultural programs, partner-and-guest events, projects, and opportunities to support and become better acquainted with the University.

The Society of the Sigma Xi is a national honorary organization devoted to the encouragement of research in pure and applied science. Members are elected upon demonstration of research proficiency and promise. Brigham Young University's association began in 1935 when members of the society on the BYU faculty organized a Sigma Xi club. The organization has since then remained continuously active, promoting and encouraging scientific research, with full chapter status being granted by the National Society in 1950.

Specific activities of the Brigham Young University Chapter of the Society of the Sigma Xi include lectures and seminars in which the results of individual research are recognized and promoted. Each year a chapter member is honored to give the annual Sigma Xi lecture. Each year, also, a nationally-renowned scientist is sponsored in a series of lectures and discussions under the auspices of the Sigma Xi National Lecturer Program. The chapter also recognizes outstanding research contributions by graduate students, electing such students to membership or associate membership, and singling out meritorious Ph.D. dissertations and master's theses for special recognition. Some research funds are also available through Sigma Xi-sponsored research projects.

Alumni Association

The Brigham Young University Alumni Association was organized in 1893 to "promote the general welfare of Brigham Young University."

During the more than seventy years of its existence it has assisted the University in many ways. The Maeser Memorial Building was built with funds from alumni; part of the property on which the upper campus now stands was obtained by the Alumni Association and turned over to the University, and eighty additional acres were purchased by the Church at the suggestion of alumni leaders; a permanent endowment fund was established in 1929; the Alumni Association is now taking an active part in the Brigham Young University Development Program; the fieldhouse fund drive was supported by the Alumni Association; funds in cash have been turned over to the University at various times for unrestricted use; the Alumni Association played an important role in the raising of funds for the football stadium; and the alumni have played a vital part in stimulating interest in Brigham Young University through contacts with prospective students.

Alumni of the University are located in all fifty states, four United States territories and possessions, and fifty-two foreign countries. Business matters of the association are handled by an eighteen-member board of directors, headed by a president, two vice-presidents, a treasurer, the president of the Emeritus Club (composed of alumni who were at the University fifty or more years ago), and a full-time executive director. Members of the board of directors are selected each year to serve terms of three years.

The Alumni Association maintains an Alumni Family Camp at Aspen Grove, located in the North Fork of Provo Canyon approximately eighteen miles from Provo. Constructed in 1963, this mountain retreat invites alumni to return to the area with their families to participate in a program of recreation and education. Included in the facilities are fifty individual cabins, swimming pool, lodge, tennis courts, softball field, dining hall, modern kitchen, children's playground, and other recreational and camping accommodations. The camp is operated on a nonprofit basis and is open during June, July, and August of each year for the benefit of members of the Alumni Association and their families.

Anyone who has attended the University for one semester or more is a member of the Alumni Association. There are no annual dues or membership drives,

except that the Alumni Association encourages contributions for the Brigham Young University Annual Alumni Fund. All contributions to this fund are tax-deductible and entitle the donor to receive publications of the University and the Alumni Association, including the "Alumnus Newspaper," which is issued bi-monthly.

Homecoming and Founders' Day in the fall and Emeritus Day during commencement week are the major events of the year on campus for alumni. Periodic reunions of all graduating classes are held on these two days. Meetings also are held throughout the country by alumni living in local areas.

The Alumni Association maintains permanent records of all former students of the University and a full-time office staff on the campus. If the current address or other information is needed about a former student, correspondence should be addressed to the Alumni Records, BYU Alumni House, Provo, Utah 84601. Alumni visiting the campus are invited to visit the alumni offices in the Alumni House and to make the building their headquarters while in the area.

The Alumni Association is a member of the American Alumni Council, an organization composed of alumni associations of all the major universities and colleges in the United States, Canada, and Mexico.

Security and Traffic

The Security Office, a protective agency established for the benefit of students, faculty, and staff, maintains effective liaison with the local police department and is entrusted with the proper enforcement of campus rules and regulations. All matters concerning security or requiring police action should be referred to this office.

Another major responsibility of the Security Office is the control of campus motor vehicle traffic and parking. In each academic year University staff members and students who regularly or occasionally operate motor vehicles in Provo City shall register any such motor vehicles with the University Traffic Department. In the case of students this is a registration for identification only, not a parking permit. All staff members and students who plan to park on University parking lots between 8 a.m. and 4 p.m. on school days must display a parking permit on their motor vehicles.

The Security Office also offers many other services to students and staff members, including the taking of fingerprints for employment applications, government jobs, ROTC, and an ambulance service in connection with the Student Health Center. All campus roads will be closed on Christmas Day each year to preserve the private ownership thereof.

Automobile Registration: Out-of-State Students

Out-of-state students may register their cars either in their home state or in Utah. If fees and taxes are paid in the home state, students will be exempt from payment in Utah.

Students from out of state must register their cars on the campus. If the cars have been properly inspected, the students can get nonresident stickers from BYU for \$.50 and will not be required to purchase Utah license plates.

Every student who is a resident of Utah, and every nonresident student who is in Utah for more than sixty days, is required to have a Utah operator's license before he may legally operate a motor vehicle on Utah highways.

Business Affairs

The executive vice-president of the University directs the business affairs area, which includes the following divisions: Office of the Assistant Vice-President for Business, Computer Research Center, Financial Services, and University Personnel Services.

OFFICE OF ASSISTANT VICE-PRESIDENT FOR BUSINESS

The assistant vice-president for business oversees a number of University business units which operate as a part of the services provided for students and faculty. As a matter of general policy, these business units must operate on a self-sustaining basis. They include functions such as

- a. **Agricultural Operations:** Spanish Fork and other related University farms.
- b. **Auxiliary Maintenance:** Maintains and repairs buildings other than academic structures.
- c. **Auxiliary Special Services:** Plans housing and food services for conferences, special groups, etc.
- d. **BYU Bookstore:** A department store on campus carrying texts, supplies, and many convenience items.
- e. **Food Services:** Operates cafeterias, snack bars, vending services, the Dairy Products Laboratory, concessions, bakery, meat processing unit, and a catering service.
- f. **Student Housing:** See Page 33.
- g. **Purchasing Department:** Procures all University supplies and equipment and maintains a stores and receiving department.

COMPUTER RESEARCH CENTER AND RELATED COMPUTERS

The Computer Research Center was established in 1958 with the installation of the IBM 650 computer. An IBM 360/50 was installed in the summer of 1968, with a full complement of supporting input and output processing equipment. All major programming languages are available, as well as a large statistical library. Some remote terminals are also available.

The primary objectives of the center are to encourage and support research, to provide instruction in computer science and technology, and to serve the administrative data processing needs of the University. The computing facilities are available to all faculty and students. Participation by everyone is encouraged.

Research is enhanced by using the powerful arithmetic and logical processing capabilities of the computer. It not only can perform numerical calculations, but also can process symbolic representation of data from all fields. In addition to its use as a tool in processing data from other fields, research is encouraged on new computer programming and application techniques. Instruction is given in several departments covering computer fundamentals and advanced applications, and frequent noncredit seminars are given on various computer-related topics. A major is available through the Computer Science Department.

Each year a few openings exist for student assistantships. Competition is keen, and students should not plan to obtain an appointment until they have discussed their qualifications with the director. Additional information may be obtained at the center, located in the basement of the Abraham O. Smoot Administration and General Services Building.

In addition to the main campus computer facilities, there are other related installations.

Engineering Analysis Center

The Engineering Analysis Center is primarily affiliated with the Electrical Engineering Science Department. Its major function is to serve the engineering departments.

The computer equipment includes a Librascope L-3055 similar to the one in the Science Computation Center. The major functions of the center are

1. Training students in the use of the computer as a computation device.
2. Providing machine capacity for engineering research projects.
3. Giving experience to students in operating, maintaining, and expanding a computer system from both a hardware and a software standpoint.
4. Allowing interfacing hardware opportunities for the engineer interested in circuitry and system aspects of hybrid and other interfacing functions.

Essentially all maintenance, operation, expansion, and software production is done with student personnel. This provides an opportunity to become intimately acquainted with engineering aspects and requirements of the system.

Additional information is available from the Engineering Analysis Center located in B-34.

Science Computation Center

The Science Computation Center is an auxiliary computer facility located in the Eyring Science Center, primarily dedicated to faculty and student research. It is also available for academic classes, laboratory calculations, and a broad range of other uses.

The main computer is one of the two Librascope L-3055's acquired from the Air Force in 1967. The system consists of a parallel processing CPU with overlapped I/O, 32K of 5 microseconds, 8 character words of core storage, six 50-KC tape drives, Card Read/Punch, a 1,000 line/minute printer, and other related devices. Additional specialized equipment at this facility provides unique capabilities dealing with analog input and output, data reduction, interactive graphics, and on-line response as required by many areas of research.

FORTRAN compilers provide easy access to the equipment for most users; a macroassembler is available for those who require additional flexibility.

Industrial Technology

There are two PDP-8/I computers located in the William H. Snell Building. One is located in Room 219 and is used primarily for APT Numerical Control Processing in conjunction with the Gerber 600 Plotter. The other one is located in Room 115 and is equipped with A/D, D/A Converters, Multiplexer, CRT, Magnetic Cartridges and Paper Tape I/O. It is used primarily for real-time programming and adaptive process control.

FINANCIAL SERVICES

Financial Services is responsible for the collection, disbursing, recording, and reporting of all University moneys. The following departments have been set up to facilitate these services:

Treasurer's Office

The Treasurer's Office has the responsibility to receive all funds from all sources through its central or subsidiary offices and to issue proper receipts for said funds. It also has the responsibility to pay on time all University obligations such as invoices, travel claims, reimbursement claims, wages, salaries, etc.

Accounting Office

The Accounting Office has the responsibility to keep adequate records of receipts, expenditures, commitments, and budget allocations; to charge expenditures paid by the University and credit income received by the University to the proper accounts; to keep all accounts and records up to date; and to submit monthly current statements to the various phases of the University administration of the accounts or funds for which they are responsible.

Payroll Department

The Payroll Department is responsible to prepare for processing the payroll for the entire University and to maintain adequate and proper payroll records.

Internal Auditing Department

The Internal Auditing Department is responsible to see that policies and procedures of the University are properly and effectively carried out, that University funds are adequately controlled and properly handled, and that all assets of the University are properly maintained, controlled, and accounted.

Budget and Procedures Office

The Budget and Procedures Office assists in the preparation, presentation, allocation, and control of the University budget. It is responsible to review all systems and procedures of the University and to assist in the development of new, improved procedures where necessary.

Financial Aids Office

The Financial Aids Office administers student loans and grants-in-aid. See Student Financial Assistance Section for further details.

Telephone Office

The Telephone Office handles all University calls, both on campus and long distance. Presently there are over 2,000 telephones connected with the University central switchboard.

Communications

The communications area of the University includes the following divisions: Communications Services, University Press, and University Relations.

COMMUNICATIONS SERVICES

Communications Services is an area involving the activities of six separate departments engaged in research, development, production, and description of information through the utilization of communicative media. A broad spectrum of support through service departments assists the academic programs of the University and administrative activities. Educational media of all types are unified to provide a modern approach to University and Church programs. Instructional development programs provide the capability of systematically upgrading the quality of instruction. Departments included are the following:

1. **Broadcast Services:** Operates closed-circuit television, KBYU-TV (Channel 11), KBYU-FM (88.9 Mhz), and many portable and miscellaneous television systems.
2. **Educational Media Services:** Provides instructional equipment and a large library of motion picture films. They also operate a faculty media laboratory and produce instructional materials of many types.
3. **Electronic Media Department:** Provides all types of electronic instructional support, such as audio and video information systems and recording. They also provide engineering support for design and installation.
4. **Instructional Research and Development:** Provides a service of instructional system development and the design of course packages in consultation with faculty members.
5. **Motion Picture Production:** Operates a modern, up-to-date motion picture studio including such services as script writing, set production, and photography for the production of complete motion pictures in 8mm, 16mm, 35mm, and 70mm.
6. **Photographic Services:** Supports all University agencies with complete academic, commercial, and research photography.

UNIVERSITY PRESS

On September 1, 1967, the University Press was organized. It consolidates formerly separate departments and adds new ones to form a complete publications service consisting of the following areas: Director's Office, Graphic Communications, University Publications, Printing Service, Publications Sales, and University Mail Services. Under a separate program student publications are coordinated by a faculty adviser who works with student editors on student publications. All departments of the University Press, with the exception of the post office facilities, are located in the University Press Building at 1700 North 700 East.

POST OFFICE

The Postage and Mailing Department is located in the Wilkinson Center. Its function is to pick up and deliver all of the intercampus mail and to pick up and meter all of the outgoing U.S. mail. With certain exceptions, two deliveries and three pick-ups are made each day on the campus.

Directory service is available for all mail addressed to Brigham Young University that does not indicate the department for which it is intended. This

is true also for mail sent to students in care of Brigham Young University. Whenever possible, mail should show a definite address for students and should be addressed to a specific room and building for faculty and staff to avoid special handling and delay. Mail then will be delivered directly to the proper address or building by the U.S. postal carrier.

A U.S. Post Office, University Station, also is located in the Wilkinson Center, where all regular postal services are available. Here students may receive and send mail, purchase stamps and money orders, etc. Individual rental boxes are available for student use, and a stamp vending machine is available for stamp purchases after regular postal hours.

UNIVERSITY RELATIONS

Contact with the numerous publics which have an interest in the functioning of Brigham Young University is primarily the responsibility of the Division of University Relations. The following offices provide a variety of specialized services for the University's many publics.

1. **Press Relations:** Responsible for preparation of news releases and the dissemination of the same to press, radio, television, magazines, and wire services. This office is also the agency through which all institutional advertising is prepared and placed.
2. **Sports Information:** Responsible for providing news coverage of BYU athletic events, preparation of sports news stories, game programs, press guides, etc.
3. **Information Services:** Responsible for answering the requests of the public for information relative to education opportunities at BYU, maintaining and staffing information centers, and providing on a loan basis color movies, slides, public displays, and taped music representing BYU.
4. **Campus Tours and Conferences:** Responsible for providing guided tours of the campus and promoting among off-campus groups the use of University facilities for conferences, conventions, workshops, luncheons, etc.
5. **Office of University Programs:** Responsible for serving as a central booking agency for all University-sponsored performing arts groups and producing high-quality variety shows which can be sent on a touring basis throughout the world.
6. **University Relations Editors:** Responsible for providing creative interpretation of Brigham Young University's image, primarily through the print media (magazines, newspapers, brochures, proposals, etc.).
7. **University Speakers Bureau:** Responsible for filling requests of off-campus groups for University speakers and bringing before the BYU student body national and international speakers who participate as part of the forum assembly program.

Graduate School

Graduate School

Chauncey Riddle, Dean (D-208 ASB)

Admission to the Graduate School is contingent upon the holding of a bachelor's degree and the meeting of minimum academic standards.

Application Deadlines. Admission to BYU for all persons holding bachelor's degrees is granted by the Graduate School. Completed application forms must be filed with the Graduate Admissions Office, D-251 ASB, by the following dates to be considered for admission in the corresponding session:

Former Students

Fall Semester	July 31
Spring Semester	January 20
Summer School	May 31

New Students

Fall Semester	June 30
Spring Semester	December 31
Summer School	April 30

Forms for applying for admission will be sent upon request.

Degree-Seeking Status. Admission to the Graduate School does not automatically admit a person to a degree program. Students are warned that credit taken on a nondegree basis ordinarily will not apply toward a graduate degree. Degree-seeking status is granted to students who meet the standards and requirements of the department to which the student is applying.

Graduating Seniors. If proper arrangements are made with the Graduate School, senior students at BYU may apply graduate credit taken during their last semester of undergraduate work towards a graduate degree. Such arrangements should be made at the time of registration for the last semester.

Graduate School Catalog. For further information, consult the Graduate School Catalog.

GRADUATE DEGREE PROGRAMS OFFERED BY DEPARTMENTS

Doctor of Philosophy
Botany and Range Science
Botany
Chemistry
Analytical-Physical Chemistry
Biochemistry
Inorganic Chemistry
Organic Chemistry
Physical Chemistry
Child Development and Family
Relationships
Child Development
Family Relationships
Marriage and Family Counseling
Education
Educational Psychology
Engineering
Chemical Engineering Science
Civil Engineering Science
Electrical Engineering Science
Mechanical Engineering Science

English
American Literature
English Literature
French and Italian
French
Geology
Economic Geology
Mineralogy and Petrology
Paleontology
Stratigraphy and Sedimentation
Structural, Field, and Dynamic
Geology
Germanic and Slavic Languages
German
History
Microbiology
Music
Physics and Astronomy
Physics
Psychology
Clinical Psychology

Social Psychology
 Religious Instruction—Ancient
 Scripture
 Religious Instruction—Church History
 and Doctrine
 Sociology
 Spanish and Portuguese
 Spanish
 Speech and Dramatic Arts
 Dramatic Arts
 Zoology

Doctor of Education

Education
 Educational Administration
 Educational Psychology
 Elementary Curriculum and
 Instruction
 Junior College Administration
 Physical Education
 Secondary Curriculum and
 Instruction

Doctor of Religious Education

Religious Instruction—Church History
 and Doctrine
 Religious Education

Master of Arts

Anthropology and Archaeology
 Archaeology
 Art
 Painting and Sculpture
 Design
 Asian Studies -
 Chemistry
 Analytical-Physical Chemistry
 Inorganic Chemistry
 Organic Chemistry
 Physical Chemistry
 Classical and Asian Language
 Latin
 Communications
 Education
 Counseling and Guidance
 Educational Administration
 Educational Psychology
 Elementary Curriculum and
 Instruction
 School Psychology (inter-
 departmental)
 Secondary Curriculum and
 Instruction
 Special Education
 English
 American Literature
 English Literature
 French and Italian
 French
 Germanic and Slavic Languages
 German
 History
 Humanities and Comparative Literature
 Latin-American Studies
 Linguistics
 Music
 Music Education
 Music Theory
 Musicology
 Physical Education
 Physics and Astronomy
 Political Science
 American Political Systems, in-
 cluding Public Administration
 and Public Law
 Comparative Polit. Systems
 International Politics
 Political Theory and Philosophy
 Recreation Education
 Religious Instruction—Ancient Scripture
 Religious Instruction—Church History
 and Doctrine
 Spanish and Portuguese
 Portuguese

Spanish
 Speech and Dramatic Arts
 Dramatic Arts
 Interpretation
 Speech

Master of Science

Agronomy and Horticulture
 Agronomy
 Animal Science
 Botany and Range Science
 Botany
 Business Education
 Chemical Engineering Science
 Chemistry
 Analytical-Physical Chemistry
 Biochemistry
 Inorganic Chemistry
 Organic Chemistry
 Physical Chemistry
 Child Development and Family
 Relationships
 Child Development
 Family Relationships
 Civil Engineering Science
 Economics
 Electrical Engineering Science
 Food Science and Nutrition
 Geography
 Geology
 Economic Geology
 Mineralogy and Petrology
 Paleontology
 Stratigraphy and Sedimentation
 Structural, Field, and Dynamic
 Geology
 Health Science
 Home Economics Education
 Industrial Education
 Mathematics
 Mechanical Engineering Science
 Microbiology
 Physical Education
 Physics and Astronomy
 Psychology
 General Psychology
 School Psychology (interdepart-
 mental)
 Sociology
 Speech and Dramatic Arts
 Communicative Disorders
 Statistics
 Zoology

Master of Accountancy

Accounting

Master of Business Administration

Business Management

Master of Communicative Habilitation

Communicative Disorders

Master of Education

Education
 Counseling and Guidance
 Educational Administration
 Educational Psychology
 Elementary Curriculum and
 Instruction
 Instructional Media
 Reading Specialist
 School Psychology
 Secondary Curriculum and
 Instruction
 Special Education

Master of Fine Arts

Art

Master of Engineering

Chemical Engineering Science
 Civil Engineering Science

Electrical Engineering Science
Mechanical Engineering Science

Master of Engineering Science*

Chemical Engineering Science
Civil Engineering Science
Electrical Engineering Science
Mechanical Engineering Science

Master of Health Education

Health Science

Master of Industrial Education

Industrial Education

Master of Library Science

Graduate Department of Library and
Information Sciences

Master of Music

Music
Organ
Piano

Voice

Master of Public Administration

Institute of Government Service
Public Administration

Master of Recreation Education

Recreation Education
Community School Leadership
Master of Religious Education
Religious Instruction—Church History
and Doctrine
Religious Education

Minors are offered in the fields listed above
in addition to the following fields:

Agricultural Economics
Applied Music
Basic Chemistry
Business Management
Philosophy

*In cooperation with the University of Utah
and Utah State University.



J. Reuben Clark, Jr., Library

Colleges

Each college in Brigham Young University is an undergraduate college which offers work for the bachelor's degree only. All work beyond the bachelor's degree, in every department, is under the direction of the dean of the Graduate School.

College of Biological and Agricultural Sciences

A. Lester Allen, Dean (302 WID)

The departments in the College of Biological and Agricultural Sciences fall naturally into two primary divisions: Biological Sciences and Agricultural Sciences. In addition there is an interdisciplinary area entitled Biological and Agricultural Education.

BIOLOGICAL AND AGRICULTURAL EDUCATION

This area houses course work in the College of Biological and Agricultural Sciences that encompasses more than one department. It also offers a master's degree entitled Master of Science Education in Biology for those who wish to teach biology in the secondary schools. The MSEB degree stresses breadth of training with a minimum of participation in research. Prospective teachers who desire a more intensive experience in research should obtain the Master of Science degree in botany or zoology.

DIVISION OF BIOLOGICAL SCIENCES

Included in the Division of Biological Sciences are the Departments of Microbiology, Botany, and Zoology.

Courses offered in these departments enable students to obtain a general understanding of the fundamental principles of plant and animal life and the relationships of plants and animals to man and the world in which he lives. Consideration is given to the economic and wild plants and animals, the beneficial and injurious insects and microorganisms, and the parasites responsible for diseases. The conservation of our natural resources and the management of forest and range lands and wildlife resources are studied. Specialized courses are offered in each of the several branches of the biological sciences for those students who wish to major in one of these fields. Preparation for teaching and research is emphasized.

Students interested in medical technology, medicine, dentistry, forestry, or range science may obtain their preprofessional training in the Division of Biological Sciences. Suggested curricula to serve as a guide for students who wish to prepare for these professional fields are shown below.

CENTER FOR ENVIRONMENTAL STUDIES

Coordinator: Doral M. Allred

Administration of the center is under the jurisdiction of the College of Biological and Agricultural Sciences, although the broad interdisciplinary organization and membership involve many departments in several colleges, as well as off-campus agencies. The principal objective of the center is to focus attention on the quality of man's environment. This involves fostering and coordinating research projects dealing with restoring and maintaining the quality of our environment, and training of students in environmental biology.

PREFORESTRY COURSE

Adviser: Odell Julander

Students may prepare themselves for training in forestry by taking the preforestry curriculum during their first two years of college work. This program is under the supervision of the Department of Botany and Range Science.

During the freshman and sophomore years students are registered for the basic science courses and the general education courses required for training in forestry. Upon completion of this preforestry program they may enroll in a professional forestry school for their major work.

Students should consult the faculty adviser of the preforestry curriculum for detailed information and for assistance in developing their class schedule for registration.

PREPROFESSIONAL COMMITTEE

Arthur O. Chapman, Chairman

This committee gives guidance to students in their course of study. Students who wish to prepare for entrance into professional schools should consult the advisers of their particular fields of interest concerning course work and procedures.

PREMEDICINE AND PRE DENTISTRY

Premedical Adviser: James L. Farmer

Predental Adviser: Arthur O. Chapman

It is strongly recommended that students who wish to prepare for medical or dental school select course work that will lead to the bachelor's degree. This will give the broad background desired by medical and dental schools, and also will prepare students to enter other professional work in the event their interest in medicine or dentistry does not continue.

Premedical and predental students may follow one of several plans to prepare themselves for professional school:

Plan I. Prior to entering a professional school, complete course work leading to a Bachelor of Science degree in any University department. The elective courses should include those minimum requirements listed in Plan III.

Plan II. Complete three years of specified work at Brigham Young University in the Department of Zoology, and transfer to this University acceptable credit for the courses completed in the first year of medical, dental, or osteopathic school, thereby satisfying the requirements for a baccalaureate degree. In addition to the general education requirements of the University, the following are required: Zool. 202, 203, and 376; Math. 109; Physics 202 or 214; and Chem. 353; with all prerequisites as listed in the catalog. Satisfactory completion of the first year of an accredited professional school is also required. A minimum of 96 semester hours must be earned before entering the professional school, and 20 hours of the credit earned at BYU must be upper division.

Plan III. Complete minimum course work required by a professional school for entrance, not including a baccalaureate degree. The student is advised to counsel with his University adviser in examining the subject requirements described in the catalog for the school of his choice. At least three years are usually required for medical and dental schools. For the most part the following courses are required: Engl. 111, 112; Math. 105, 106 or 111, and 109; Chem. 105 and 106 (or 111, 112, 113, 114), 351, 352, 353; Physics 201, 202; Bio. Agr. Ed. 201; Zool. 202 and 203. In addition, some schools require Chem. 223 and Zool. 363, and 376. These are minimum course requirements. These courses alone will not satisfy the requirements for a baccalaureate degree at Brigham Young University.

PREDENTAL HYGIENE

Adviser: August Jaussi

Schools of dental hygiene are located at most dental schools and at a few other colleges. The course of instruction is either two years in length, leading to

the Certificate in Dental Hygiene, or four years, leading to the bachelor's degree in dental hygiene. The four-year program is strongly recommended. The two-year program may be entered directly after high school, although preference is given to candidates with some college training. The four-year program requires that the first two years be spent in college and the last two in a dental hygiene school. Details of the first two years of training will depend upon the hygiene schools to which the student applies and may be determined in consultation with the adviser. Students should have a catalog of the dental hygiene school in which they are interested when they consult with the adviser, as the program in each school varies considerably.

PREOPTOMETRY

Adviser: August Jaussi

The requirements for admission to schools and colleges of optometry are not identical. Typically, the requirements include courses in English, mathematics, physics, chemistry, and biology or zoology. Schools have varied requirements in psychology, social sciences, literature, philosophy, and foreign language. For details consult optometry school catalogs and counsel with the preoptometry adviser.

PREPHARMACY COURSE

Adviser: August Jaussi

Two years of the curriculum of any pharmacy school may be completed at this campus. For specific details the student should consult the adviser.

DIVISION OF AGRICULTURAL SCIENCES

Included in the Division of Agricultural Sciences are the Departments of Agricultural Economics, Agronomy and Horticulture, and Animal Science. Students taking their major work and supporting courses in these departments and in the related basic sciences may prepare themselves for successful careers in agriculture.

Agriculture always has been America's basic industry, and is more important today than ever. The agricultural industry has developed rapidly in mechanization and efficiency of production. The men and women engaged in agricultural research, production, and marketing must have an understanding of the new scientific and technological developments that have taken place. They must also have a solid foundation in the basic sciences. These, along with practical experience, will better prepare them to serve as farm managers and operators, research scientists, and as technicians.

All students interested in agriculture will be given an opportunity to obtain a broad understanding of its various phases. They may specialize by taking a major in one of the departmental curricula that will prepare them for farm and ranch operation and management, for employment in related agricultural business or industries, for employment with governmental organizations under civil service, or for teaching and research. For certain kinds of work it will be necessary to place strong emphasis on preparation in the basic sciences and on graduate study for an advanced degree.

PREVETERINARY COURSE

Adviser: Keith H. Hoopes

Students planning to enter veterinary school may take their preveterinary training at Brigham Young University. These students should register with and obtain advisement from the preveterinary adviser in the Department of Animal Science.

Certain entrance requirements are common to all of the veterinary schools in the United States. The courses listed below are designed merely as a guide to help the student fill these basic requirements. The student is advised to consult the catalogs of veterinary schools of his choice for specific entrance requirements that may affect him. In connection with his preveterinary curriculum the student is strongly urged to work toward a bachelor's degree, including

course work in animal science and the basic sciences. A bachelor's degree intensifies the student's ability to understand the principles of veterinary medicine and provides an alternative should the student fail to enter veterinary school.

The following courses are included in the entrance requirements of most veterinary schools: Engl. 111, 112; Math. 101, 105, 106; Chem. 105, 106, 223, 351, 352; Zool. 105, 202, 203; Physics 201, 202; Bot. 101; Micro. 121; An Sci. 121, 153, and 207. Attention also is called to the general University requirements for graduation. Students planning to enter veterinary school are not exempt from these general education requirements.

College of Business

Weldon J. Taylor, Dean (154 JKB)

Students may be graduated with a major in one of the following departments in the College of Business:

Accounting
Business Education
Business Management
Economics
Statistics

OBJECTIVES OF THE COLLEGE OF BUSINESS

The primary purpose of the College of Business is to assist the student to achieve success in business, government service, professional education, or graduate study. Programs within the college are designed to provide learning experiences to help the student acquire knowledge, insight, maturity, competence, and a sense of business ethics.

The student is expected to develop competence in the following abilities:

- a. To use quantitative tools and scientific methods in analyzing the problems and policies of the economy and the individual business firm.
- b. To write and speak effectively.
- c. To work with people to achieve individual and organizational objectives.
- d. To use sound analysis and perceptive interpretation of economic and social forces.
- e. To think logically and abstractly.
- f. To make sound decisions.

RECOMMENDED HIGH SCHOOL PREPARATION

Because of the increasing use of mathematics and communications in business, a student expecting to enroll in the College of Business will find it necessary, in order to complete the prescribed curricula without loss of time, to have successfully completed the following high school courses or their equivalent:

3 units of English

3 units of mathematics, consisting of 2 units of algebra and 1 of geometry.

Students who have not completed the mathematics suggested above in high school will be required to remedy the deficiency before registering for Math. 108.

DIVISION OF BUSINESS FUNDAMENTALS AND COLLEGE CORE REQUIREMENTS

All students registering in the College of Business will register in the Division of Business Fundamentals as their major (Department Code 213) until they have completed the College of Business lower-division core course requirements and have completed at least 64 semester hours of university credit. Upon completion of the requirements, students who have earned a 2.25 grade-point average in the

core courses listed below will be permitted to transfer to the department in which they intend to specialize and graduate:

Acctg. 201, 202	6 hours
Econ. 111, 112	4 hours
Math. 108 (or equivalent)	4 hours
Stat. 221 (or equivalent)	3 hours

Students planning to transfer into a department which requires Acctg. 232 or Math. 109 should also take these courses while in the Division of Business Fundamentals.

Econ. 111 and 112, listed above apply to the University's general education requirements in social sciences. Math. 108 and Acctg. 232 may be used toward the specified mathematics, statistics, logic and science requirements. Stat. 221 may be applied toward the University's general education requirement in physical science.

A student majoring in one of the departments in the College of Business must complete the six college core courses which are in the Business Fundamentals Division (Math. 108, Stat. 221, Acctg. 201 and 202, and Econ. 111 and 112) before commencing work in a major. Transfer students, or students changing to a College of Business major from another College will be allowed a one-semester grace period to remove any deficiency in the Business Fundamentals Division core requirements, or any GPA deficiency. During this semester it will be permissible for students to register for selected courses in their major which do not require the six Business Fundamentals Division courses as prerequisites.

In order that all students (except business teaching majors) who plan to graduate with a major in any of the departments of the College of Business may benefit from a common background of the basic information and tools to help in their advanced work, they are also required to take the additional core courses listed below. Normally these are completed during the junior year.

Acctg. 342	3 hours
Bus. Mgt. 341, 301, or 321 or 361	9 hours
Econ. 301 or 302	3 hours

Business education majors may take the following substitutions:

Bus. Ed. 305 for Bus. Mgt. 321 or 361.

Econ. 274 for Econ. 301 or 302.

Econ. 353 for Bus. Mgt. 301.

Business education majors in the Business Teacher Program may also take Bus. Mgt. 241 instead of Bus. Mgt. 341.

Economics majors may substitute Econ. 353 for Bus. Mgt. 301.

It is recommended that all College of Business students take Bus. Ed. 320 to aid in developing competence in written and oral communications as stated in the objectives of the College of Business.

GRADUATE PROGRAMS

Graduate programs are also offered through the Graduate School by departments of the College of Business. Degrees offered are

The Master of Business Administration (MBA)

The Master of Accountancy (M.Acc.)

The Master of Science in Economics (MS)

The Master of Science in Business Education (MS)

Students who contemplate entering one of these graduate programs should consult with the department chairman prior to registering for upper-division classes in the undergraduate program.

The program leading to the Master of Business Administration (MBA) is designed primarily for qualified students whose undergraduate majors were in the arts, the sciences, and other nonbusiness areas. Those contemplating an MBA degree are advised to take a broad program in their undergraduate work and should contact the director of the MBA program.

College of Education

Stephen L. Alley, Dean (118 McKay)

Curtis N. Van Alfen, Asst. Dean (152 McKay)

The College of Education has as its principal function the educating of teachers, counselors, school psychologists, school librarians, principals, supervisors, superintendents, and other professional workers in education.

The College of Education has but one department, the Department of Education. Undergraduate and graduate work is organized in three functional areas—Administrative Services, Special Services, and Curricular and Instructional Services.

Administrative Services include programs in educational administration, research and statistics. Special education and the counseling program are grouped in Special Services, while the area of Curricular and Instructional Services is comprised of programs in elementary and secondary education, educational foundations, reading and media, and educational psychology.

Elementary School Teaching. A student interested in elementary school teaching should register in the College of Education immediately. The program is largely prescribed from the beginning of the freshman year. Late entrance into the college may delay graduation and certification beyond the usual four years. For course listings and prerequisites see the Education section of this catalog.

Secondary School Teaching. A student who plans to prepare for a career in high school teaching and related activities may do so either by registering within the College of Education or by registering in one of the other colleges of the University. In the latter case he must complete the required professional education courses and the necessary subject matter, and other courses for the teaching certificate under the joint direction of an adviser in the College of Education and an adviser in his major college. For course listings and prerequisites in this area, see the Education section of this catalog.

Special Education. A student interested in preparing to teach classes for students with intellectual handicaps, motor impairments, visual disabilities, or learning disabilities should plan his program with the coordinator of special education during his freshman year. Individuals who certify in these specialized areas are advised to obtain regular elementary or secondary teaching certificates. Early planning will enable the student to complete requirements for basic professional certification in special education along with his regular four-year program.

Indian Education. Students interested in teaching Indian children are encouraged to enter either the elementary or secondary teacher certification programs. While students are completing these programs, they may take certain Indian education courses to enhance teaching competency. As each student applies for student teaching, he indicates his desire for a teaching assignment in a public school with Indian students. To provide even greater background the Indian Studies minor is available to those seeking the teaching certificate. For further information, contact the coordinator of Indian education in the College of Education or the Institute of Lamanite (American Indian) Studies.

Junior College Teaching. The College of Education provides appropriate training for graduate students who are interested in junior college teaching. Students who are registered with the Graduate School in a program leading to a master's degree in an academic subject matter area may complete the requirements for a junior college teaching credential by enrolling in professional education courses offered in the graduate program.

Administrative-Supervisory Certificate. Students seeking certification as administrators and/or supervisors in Utah must give evidence of at least three years of successful teaching experience, of having a valid teaching certificate, and of having taken eighteen semester hours of specified graduate course work. In addition, secondary school administrators and supervisors must give evidence of having completed a master's degree or its equivalent in course work which may include the twelve semester hours.

Curriculum and Instruction. Qualified students seeking specialization in the areas of curriculum and instruction may pursue work leading to the Master of Arts, the Master of Education, or the Doctor of Education degrees. The exact requirements of these programs are found in the Graduate School Catalog.

Counseling and Guidance. Certification as a school counselor in Utah requires approximately one year of graduate work in counseling and guidance plus two years of successful teaching experience.

School Psychology. The Department of Education and the Psychology Department jointly offer a program leading to state certification as a school psychologist. This program requires a master's degree and ordinarily takes two years beyond the bachelor's degree to complete. To be certified in Utah the person must have a valid teaching certificate. It is also highly recommended that he have at least a year of teaching experience at either the elementary or secondary level.

Secondary School Principalship. Certification as a secondary school principal in Utah requires a minimum of three years of successful teaching experience, five years of study in an accredited college or university terminating in the master's degree (or fifty-five quarter hours—37 semester hours—of credit in graduate study, including a minimum of 27 quarter hours or 18 semester hours of work selected from three or more areas related to school administration). The courses listed in the catalog leading to the master's degree in educational administration enable the candidate to obtain the Administrative-Supervisory Certificate for Secondary Schools.

Teaching as a Second Career. A student preparing for a career in a field other than teaching may provide himself with a second possibility for employment by meeting the requirements for certification as a teacher while he is completing the other preparation. By planning early in his career, he may do this within the usual scope of the baccalaureate program and with little or no interference with the major program. It should be noted that at present this is particularly feasible for high school teaching, where depth of preparation in two or three subject-matter fields is desired, but it also may be possible under special arrangements in the elementary school program.

Early Decisions Desirable. In either case the student is urged to make the decision as early as possible in his college career to avoid conflicts in the scheduling of courses and to take fullest advantage of the maturing effect produced by spacing the study of teaching over a period of time.

How to Proceed. Those who decide to register in the College of Education should transfer to that college at once. All others will register in the colleges in which they are majoring. Every candidate for a teacher's certificate, however, regardless of the college in which he is registered, must have his certification program approved in the Teacher Clearance Office, Young House, before he enters Education 301, the first course in the professional education sequence.

Cycle Organization. To insure adequate facilities and opportunity to take classes, it has been necessary to organize the programs of the College of Education into cycles. Students in elementary education enter the cycles as beginning freshmen according to alphabetical listing of surnames. Students in secondary education are placed in the appropriate cycle according to subject-matter department. Inquiries concerning the proper cycle may be made in the Teacher Clearance Office.

Because it is necessary to keep the cycles balanced, students will not be admitted to the first course without proper approval of their programs.

Students not meeting the academic and other standards of the University may be asked to withdraw from the teacher certification program.

All students in the teacher certification program will be required to meet minimum standards in speech and hearing. Speech and hearing tests may be given as part of the course requirements in the first course in the certification cycle.

Each student who undertakes preparation for teaching will be provided with a brochure describing the requirements and procedures. He will be expected to keep a record of his program and his progress.

How to Become Certified. A student who completes the certification requirements set forth by the College of Education, regardless of the college in which he is registered, is eligible for a certificate issued by the Utah State Board of Education. Certification is approved by that board after application for certification has been made personally by the student through the dean of the College of Education, who in turn recommends the student to the state board.

Students will be held for certification requirements under the catalog in effect during the year in which they were admitted to the education program.

A student may prepare himself to be certified as any of the following:

- Teacher in kindergarten
- Teacher in elementary schools
- Teacher of special education classes
- Teacher in secondary schools
- Teacher of industrial arts in secondary schools
- Teacher of vocational homemaking in secondary schools
- Teacher of unit shops in industrial arts
- Librarian in secondary schools
- Teacher in junior college
- Counselor
- Administrator-supervisor in elementary schools
- Administrator-supervisor in secondary schools
- Superintendent

Certification in Other States. Students planning to teach in states other than Utah should check with the Teacher Clearance Office, Young House, for the special requirements of those states.

Basic Professional Certificate. Certification of teachers is a function of the Utah State Board of Education. The Board of Education publishes requirements for certification in booklet form and in supplements. The present policy of the board is one of stating minimum requirements in general terms. This is done to encourage the institutions that prepare teachers to engage in continuous study of the requirements, going beyond the minima in whatever ways seem desirable. While the board is always able to certify a candidate without recommendation from a university, it chooses to require the recommendation of the dean of the College of Education in each institution. This requirement is of assistance not only to the state board, but also to the institution because of the assurance that its efforts to improve the program of preparation will not be made ineffective by the ready availability of ways of going around the minimum requirements.

Alterations in the requirements may be made from time to time. They will not be made retroactive in the case of any student, but may be made to apply to uncompleted portions of his program where this can be done without difficulty.

Requirements for Dual Certification. An individual who has met the requirements for a general elementary school certificate may obtain a general secondary school certificate by meeting certain additional requirements. The state's requirements for subject-matter major, minor, or composite teaching major must be completed. In addition, the individual must complete certain courses in methods of teaching and in student teaching at the secondary school level. An individual who has met the requirements for a general secondary school certificate may obtain a general elementary school certificate by completing certain courses in methods of teaching and in student teaching at the elementary school level. Specific instructions for these programs are available in the Teacher Clearance Office, Young House.

Selection of Candidates. Candidates for certification as teachers should expect to be carefully selected, even though their interest in certification is secondary to another career at the time. Only individuals of high caliber who have acquired a substantial general education, whose mastery of their major and minor fields is unquestioned, and whose personal character reflects the best ideals of our culture will finally be recommended for certification.

The selection of those who will be finally recommended for certification is a continuous process. It begins when the student first announces his intention of

seeking certification. It continues through all stages of his education. Among other things, it is necessary to maintain a Brigham Young University cumulative grade-point average of 2.25 or better to remain in the program ("C"=2.00).

Students Transferring from Other Colleges. To transfer from another university to the College of Education at Brigham Young University the student must have a cumulative grade-point average of 2.25 or better.

Students transferring to the College of Education from another college within Brigham Young University must have a Brigham Young University cumulative grade-point average of 2.25 or better.

To continue to take sequence courses in professional education or to remain in the College of Education the student must maintain both a Brigham Young University cumulative grade-point average and a semester grade-point average of 2.25 or higher.

College of Family Living

Blaine R. Porter, Dean (1206 SFLC)

BACCALAUREATE DEGREE

The four-year academic program in family living provides a broad liberal education as well as preparation for a profession. All the colleges of the University contribute to the curriculum, providing background in the arts, humanities, and sciences to be applied and integrated into areas of specialization which may continue through the baccalaureate to an advanced degree. The college contributes to the total University community by offering courses designed to develop insight into and understanding about various aspects of family life.

Much of the work that was at one time confined to the home has moved out into the community and has resulted in highly specialized, professional services, to all homes and families. Areas of specialization include child development, clothing and textiles, dietetics, early childhood education, environmental design, family economics, family relationships, food science and nutrition, home economics education, and home management. These areas of specialization are offered in six departments of the college:

Child Development and Family Relationships	203 SFLC
Clothing and Textiles	3256 SFLC
Environmental Design	2230 SFLC
Family Economics and Home Management	2246 SFLC
Food Science and Nutrition	2218 SFLC
Home Economics Education	2234 SFLC

REQUIREMENTS

All major curricula include courses in the physical, social, and biological sciences and the humanities, as well as courses in the college. Specific requirements for each major offered in the college are described in detail in the departmental section of the catalog.

AFFILIATION WITH THE MERRILL-PALMER INSTITUTE

Through a cooperative arrangement with the Merrill-Palmer Institute of Human Development and Family Life in Detroit, Michigan, the college sends several students to the institute each year. Seniors and second-semester juniors from any department are eligible. Criteria for selection are scholarship, professional interest, and worthy representation of the Church and the University. Credits earned at the institute are accepted and credited toward graduation at Brigham Young University.

GRADUATE STUDY

Students who have completed all requirements for the bachelor's degree and who wish to continue their studies are registered in the Graduate School

and are under the jurisdiction of the dean of that school. The college, through approval of the Graduate Council, provides curricula leading to the master's degree in child development, family relationships, food science and nutrition, and home economics education. The doctor's degree is offered in child development, family relationships, and marriage and family counseling. In order for a student to participate in these programs he or she must apply to the Graduate School. Because of attractive opportunities and a serious need for the contributions of highly-trained professional persons, outstanding students are encouraged to pursue graduate studies.

PROFESSIONAL AND HONORARY ORGANIZATIONS

Sigma Delta Omicron is a professional club with membership open to all students in the college. Special-interest sections of the club are sponsored by each department.

Omicron Nu is a national honorary society that recognizes superior scholarship, aids in the development of qualities essential to leadership, and encourages research in the professional fields related to home and family living. Juniors, seniors, and graduate students of the college with high academic standing, ability in creative thinking, and potential leadership ability are eligible for election to membership.

SCHOLARSHIPS AND AWARDS

The college recognizes outstanding accomplishments of students at the college honors and awards convocation. Following is a description of scholarships and awards presented:

Departmental Awards

Child Development and Family Relationships

CDFR Outstanding Senior Awards. These awards are given to the two students who best represent the seniors graduating from the department. The students are judged on the basis of their academic performance, their activity and interest in the objectives of the department, and from personal evaluations of faculty members who have worked with the students.

Frances P. Barlow Award. A pewter pitcher is awarded to an outstanding CDFR senior who will continue to pour the love and understanding of children into the hearts of all with whom she will come in contact.

Elizabeth T. Porter Memorial Scholarship (established by the family and friends of Betty Porter). A \$100 scholarship is awarded annually to a student majoring in child development and family relationships. The recipient is selected on the basis of integrity, scholastic achievement, professional promise, and financial need.

Clothing and Textiles

May Billings Scholarship (established by Verda Griner). A \$100 scholarship is awarded to a junior for outstanding accomplishment in clothing.

Maxine T. Grimm Award. A personally hand-woven dress fabric is presented to an outstanding senior in the Department of Clothing and Textiles.

Environmental Design

Environmental Design Outstanding Senior Award. An award presented to a senior student who best represents the seniors graduating from the Department of Environmental Design. The student is judged on the basis of academic performance, activity and interest in the objectives of the department, professional promise, and from personal evaluations of faculty members who have worked with the student.

Milo Baughman Award. A \$100 cash award is given to the most promising sophomore in the Department of Environmental Design. The recipient must have

demonstrated exceptional ability in the field of environmental design as well as dedicated professional interest and attitude.

Milo Baughman Design, Incorporated, Award. A \$100 cash award is given to the most promising junior in the Department of Environmental Design. The recipient must have demonstrated exceptional ability in the field of environmental design as well as dedicated professional interest and attitude.

Family Economics and Home Management

Family Economics and Home Management Achievement Award. An award given to a senior student judged on the basis of academic performance, activity and interest in the objectives of the department, and from personal evaluations of faculty members who have worked with the student.

Food Science and Nutrition

Susa Young Gates Memorial Scholarship (established by Leah D. Widtsoe). The sum of \$100 is awarded to a junior who is particularly interested in pursuing nutrition studies related to the Word of Wisdom.

Home Economics Education

Virginia B. Poulson Senior Achievement Award. An award is presented to a senior student who best represents the seniors graduating from the Department of Home Economics Education. The student is judged on the basis of academic performance, activity and interest in the objectives of the department, professional promise, and from personal evaluations of faculty members who have worked with the student.

College Awards

Effie Warnick Memorial Scholarship (established by colleagues, students, and family of Effie Warnick). A \$100 scholarship is awarded to a high school senior who is planning to enroll in the College of Family Living at Brigham Young University. The recipient will be selected on the basis of an examination, high school transcript, interview, essay, and recommendation of high school teacher.

Sophomore

Zina Young Williams Card Award (sponsored by Mary Brown Firmage in honor of her grandmother). A featherweight sewing machine is awarded to a sophomore who has a grade-point average of 3.5 or better and who exemplifies the great qualities of the first teacher in the Ladies' Work Department of Brigham Young Academy.

Sigma Delta Omicron Scholarship (established by Dr. Marion C. Pfund). A \$150 scholarship is awarded to a sophomore who has a grade-point average of 2.65 or better with no grade lower than "C." The recipient must have been an active member of Sigma Delta Omicron for two years.

Junior

Elsie Maughan Belliston Library Award. Professional books and/or periodicals are awarded to a junior who has a grade-point average of 3.0 or better. High ethical standards and dedicated professional interest also are considered.

Delbert Chipman and Son Scholarship. A \$100 scholarship is awarded to a junior who has a grade-point average of 3.25 or better. The recipient is selected on the basis of scholarship, community service, and professional promise.

Caroline R. Eyring Memorial Scholarship (established by Joseph C. Eyring). A \$500 scholarship is awarded to a junior who has a 3.5 grade-point average or better. Interest in professional training or graduate work and a high concern for the social welfare of others are attributes considered.

Hi-Land Dairy Scholarship. A \$100 scholarship is awarded to a junior who has a grade-point average of 3.25 or better. The recipient must show evidence of professional promise and have characteristics that are desirable in business. The person selected should plan to assist with several dairy council projects during the senior year.

Elaine Ranker Monson Scholarship (established by Irene T. Ranker). A \$100 scholarship is awarded to a junior who ranks in the upper five percent of her class. Professional attitude, ability to think critically, and interest in graduate work are considered.

Elizabeth Cannon Sauls Scholarship (established by Kiefer B. Sauls). A \$100 scholarship is awarded to a deserving junior whose grade-point average, character, and professional potential are rated in the upper ten percent of the class.

Senior

Rose Wallace Bennett Leadership Award (established by the Bennett family in memory of their mother). A piece of luggage is awarded to a senior who has best demonstrated the ability to be an able leader in campus affairs as well as a good student.

Gamma Phi Omicron Alumnae Award. An engraved silver tray is given to a senior of high scholastic standing who has demonstrated most adequately the ability to carry a dual role—that of homemaker and student.

Hazel Noble Award. A precious gift for the home is awarded to a graduating senior whose womanly qualities, professional attitude, and scholastic interests are reflected in her daily living.

Leah D. Widtsoe Sterling Award. A silver bowl is awarded to a senior of sterling character who has made significant progress during her years of study and who has gone the "second mile" to render service to classmates, college, and university.

Graduate

Lilian Booth Davis Memorial Scholarship (established by Mrs. Lucille Booth Bushnell and Dr. Wayne C. Booth in honor of their mother). A \$100 scholarship awarded to a graduate student in the field of counseling who possesses the womanly qualities of Mrs. Davis and whose special interest includes counseling students on their personal and academic matters.

Belle Wilson Hales Memorial Scholarship (established by Wayne B. Hales). An \$800 scholarship is awarded to a senior or graduate student in the College of Family Living or to a graduate student from some other institution of higher learning who is transferring to the college at BYU. The recipient is selected on the basis of scholarship, character, leadership, community service (including school, Church, and community), and financial need.

Moyle-Woodruff Fellowship (established by Virginia F. Cutler). A \$500 fellowship is awarded to a graduate student who is engaged in studies related to home and family values and who is a candidate for future leadership positions. The recipient is selected on the basis of high academic achievement, growth in professionalism, personal integrity, and a high sense of social and moral responsibility.

ASSOCIATE DEGREE

The associate-degree program in family living is designed for students who desire to become more proficient in the responsibilities associated with marriage and parenthood and at the same time develop abilities and skills that can be put to use occupationally. The requirements in the 64-hour curriculum are specified as follows:

General Requirements	20 hours
Engl. 111 and 112—6 hours; Health 130—2 hours; physical education—1 hour; Hist. 170—3 hours; religion—8 hours (including Relig. 121 and 122).	

Group Requirements 12 hours
 Biol. sci.—3 hours; phys. sci.—3 hours; soc. sci.—3 hours;
 hum. and fine arts—3 hours.

Departmental Requirements 32 hours
 Courses may be selected from child development and family relationships, clothing and textiles, environmental design, family economics and home management, and food science and nutrition. A student may choose to take most of the work in one department or combine studies from all departments, depending on family and occupational goals.

Assistance in the planning of this program is available through the program supervisor in the College of Industrial and Technical Education.

The two-year curriculum may be converted, at any time, to a four-year program leading to the baccalaureate degree. Guidance in transferring to the baccalaureate program may be obtained through the dean's office of the College of Family Living.

PREARCHITECTURE PROGRAM

A three-year curriculum program administered by the Civil Engineering Science Department in the College of Physical and Engineering Sciences is available to prepare those interested in architecture for entrance at the fourth-year level into a typical six-year master's degree program at any accredited school of architecture.

Consult Page 95 and Milo Baughman, chairman of the Environmental Design Department, for further details.

College of Fine Arts and Communications

Lorin F. Wheelwright, Dean (A-410 HFAC)

Lael J. Woodbury, Assistant Dean (A-412 HFAC)

The following departments are in the College of Fine Arts and Communications:

Art
 Communications
 Music
 Speech and Dramatic Arts

The University has a long tradition of providing all students with a rich experience in fine arts and communications. Fifty percent of the entire student body take courses in the Harris Fine Arts Center each semester. In any one year more people attend the college arts events than all of the home football and basketball games combined. Student and faculty touring groups reach out to the entire Church and many foreign countries. In Journalism, students who edit "The Daily Universe" and "Banyan" yearbook receive their direction and advisement from faculty members. People learn by doing in this college.

Programs leading to professional careers are offered in each department. The faculty includes men and women of the highest professional distinction and academic discipline. The college also brings to campus many artists, special lecturers, and practitioners directly from professional fields. The Harris Fine Arts Center provides five speech and drama theatres, two ideal concert halls, two magnificent art galleries, broadcast and journalistic laboratories, clinics, practice rooms, plus an atmosphere of creative enterprise. All of these resources combine to help students establish competence in their chosen careers and build life values in their cultural pursuits.

DEPARTMENT OF ART

The Department of Art serves two main purposes: (a) the preparation of creative leaders in the various fields of the plastic and graphic arts, and (b) the building of an appreciative audience for these arts.

Major programs are offered which lead to careers in art education, commercial art, interior design, painting, printmaking, sculpture, and ceramics. Four degrees are offered: (a) the Bachelor of Arts, (b) the Bachelor of Fine Arts, (c) the Master of Arts, and (d) the Master of Fine Arts. The Bachelor and Master of Fine Arts place an emphasis on performance.

The Master of Fine Arts degree is a two-year program. It requires a one-man show, a terminal project, and a scholarly report of the graduate's art activities and terminal project.

Master of Arts degrees are offered in the fields of painting and sculpture and in design, which may include ceramics, crafts, interior design, printmaking, and commercial art.

A collection of more than seven thousand original works of art, by both American and European artists, is owned by the University. Frequently changing exhibitions of work by contemporary artists also contributes to general appreciation and to the instructional program. Exhibitions of students' work are held regularly for analysis and criticism, and for furthering professional growth. The Department of Art sponsors special lectures, demonstrations, and trips to galleries as cultural enrichment activities.

DEPARTMENT OF COMMUNICATIONS

The principal objectives of the Department of Communications are to prepare qualified students for professional careers in the major areas of mass communication and to help all students in the University gain greater understanding of the mass media as they affect them in daily life.

The professional education program in communications offers specializations in the following areas leading to the Bachelor of Arts degree: advertising and public relations; journalism (newspaper, magazine, and radio-television journalism); broadcasting; and teaching of journalism. Graduate studies leading to the Master of Arts degree provide advanced courses and seminars in specialized areas of the discipline.

Course offerings are supported by laboratory facilities in the areas of advertising, reporting and editing, photography, and broadcasting. Broadcasting instructional facilities include the studios of KBYU-TV and KBYU-FM. Students in advertising and journalism have opportunity to combine their instructional program with staff assignments on "The Daily Universe" campus newspaper.

As a link between the student's academic preparation and his professional career, professional internships are arranged for qualified seniors and graduates. In these internships supervised experience is gained on the staffs of selected newspapers, magazines, radio and television stations, and advertising agencies and offices.

The department sponsors a series of lectures on communications throughout the year to bring students in contact with leading professionals and scholars in the field of communications. Professional activities are also stimulated by student organizations in advertising, journalism, and broadcasting.

DEPARTMENT OF MUSIC

The main objectives of the Department of Music are to help each student attain through music the skills and proficiencies of an artist while he is gaining a broad general education; to develop talent to the highest degree possible; to train music teachers for a noble profession; and, through association with distinguished artists and teachers, to help all BYU students acquire discriminating taste and sound critical judgment.

The Bachelor of Arts degree is available with majors in music theory and applied music. The Bachelor of Music degree is available with a major in music education. The master's and doctor's degrees may be taken in musicology, music theory, music education, and applied music.

Students who desire to become composers, arrangers, or music copyists, or who wish to teach theory of music should pursue a major in music theory.

Every music major studies a certain amount of applied music in order to develop proficiency on his major instrument or in voice. Students who wish

to become skilled performers in order to qualify themselves to assume positions in the concert or professional world should major in applied music.

Prospective school teachers have the opportunity to major in vocal or instrumental music. Each program is designed to emphasize the essential aspects of preparation for teaching in public schools. The master's degree program in elementary or secondary school music is designed to prepare teachers, supervisors, and music consultants who can help classroom instructors teach music effectively.

A cultural atmosphere seldom equaled is provided through concerts and recitals, including visiting groups and artists. The Department of Music sponsors more than 285 concerts and recitals each year, not including the lyceum service provided by student body activities and by the lyceum committee.

There is a musical organization for every student at BYU who is interested in singing or in playing a musical instrument.

DEPARTMENT OF SPEECH AND DRAMATIC ARTS

The speech area of the Department of Speech and Dramatic Arts provides practical training and experience to the general University student in public speaking, discussion, and parliamentary debate. This is particularly applicable to the prelaw, business, and teaching professions. In addition to course work, several competitive speaking contests are sponsored to encourage speaking activities. These include the Donald C. Sloan Extemporaneous Speaking Contest on current events, which offers tuition prizes; the Heber J. Grant Oratorical Contest on a faith-promoting subject; and the Delta Phi Extemporaneous Speaking Contest on religious topics. The department also sponsors the Speakers Forum at the close of each semester.

The BYU Forensic Association offers an opportunity for all students to participate in competitive speech activities on both the intramural and inter-collegiate levels. Interested students in all fields of study participate in more than thirty debate trips during the academic year to many parts of the nation. During the past ten years BYU has qualified for the National Debate Tournament at West Point five times. Only thirty-six schools from among the nation's more than 2,000 colleges and universities are selected to participate in this tournament.

The dramatic arts area offers programs leading to professional competency in acting, directing, playwriting, technical (design, construction, and costuming), and education. Its physical facilities are unrivaled in America, and they permit an intensive production laboratory and experimental program which features eighteen major productions and sixty-five one-act and experimental plays. In addition, the department operates a graduate repertory company which spends most of one semester each year on tour, thus taking the influence and literature of the Church to communities beyond the campus, and, at the same time, introducing the student to the actual practice of the professional theatre.

Recently the department was highly honored in being chosen a second time by the American Educational Theatre Association and the USO to play at Far Eastern military bases, including Japan, Okinawa, Korea, the Philippines, Guam, and Hawaii. It toured Northern Europe in Spring Semester of 1968. The department operates a major theatre, an arena theatre, an experimental theatre, and a television drama series, with the latest and most workable equipment to be found in any of the theatres of the United States.

The area of communicative disorders (also known as speech correction or speech therapy) prepares students for speech and hearing rehabilitation training positions with public schools, community speech and hearing centers, for university and college clinics, hospitals, and private practice. The student deals with the diagnosis, elimination, and alleviation of speech defects or with the development and improvement of speech intelligibility. He also studies the function of the ear, impairments of hearing, and the education or reeducation of the person with a hearing loss. The state certificate in speech and hearing therapy can be obtained through a four-year program. The national American Speech and Hearing Association certificate in speech pathology or audiology may be obtained under a master's degree.

Speech education is a combination program which leads to a teaching certificate in the state of Utah. The objective of this program is to provide students

with the skills, methods, research, and actual teaching experience needed to effectively teach speech and drama units on the secondary level.

FINE ARTS COLLECTION

The fine arts collection of paintings, sculpture, drawings, etchings, engravings, monotypes, lithographs, and reproductions of works of art is as follows:

A. Memorial Collections.

1. The Lee Greene Richards Collection of 36 paintings.
2. The James T. Harwood Collection of 90 paintings, etchings, and drawings.
3. The John Hafen Collection of 24 paintings.
4. The Elbert H. Eastmond Collection of 64 paintings.
5. The John Willard Clawson Collection of 85 paintings and sketches.
6. The Maynard Dixon Collection of 85 paintings and sketches.
7. The Edwin Evans Collection of 61 paintings.
8. The Rose Hartwell Collection of 71 paintings.
9. The Rose Hartwell Crafts Collection.
10. The Joseph Imhof Collection of lithographs.
11. The Merlin A. Steed Collection of 70 paintings.
12. The Mahonri Young Collection of 304 sculpture pieces (bronze and plaster), 326 paintings, 5,308 watercolors and drawings, 1,112 prints. Acquired with the Mahonri Young Collection are oils, pastels, drawings, watercolors, etchings, and other prints totaling 2,116 pieces. Among the artists represented above are such names as Albert Bierstadt, Clifford Beal, Camille Corot, Arthur B. Davies, William Glackens, Child Hassam, Winslow Homer, Edward Manet, Jean F. Millet, Joseph Pennell, John Twachtman, Dorothy Weir, J. Alden Weir, James Whistler, Harry Wickey, and others.
13. LeRoy Pharis Collection of 49 pieces of Chinese ivory carvings, paintings, and screens.

B. Other Utah artists represented: George M. Ottinger, Daniel Weggeland, Loris Pratt, John B. Fairbanks, Samuel Jepperson, Minerva Teichert, Alma Wright, Waldo Midgley, Calvin Fletcher, Cornelius Salisbury, Joseph Everett, Henri Moser, Torlief Knaphus, Avarid Fairbanks, Henry Rasmussen, B. F. Larsen, Edgar M. Jensen, Glen H. Turner, J. Roman Andrus, Warren B. Wilson, Richard L. Gunn, and Lavie H. Earl.

C. Other well-known national artists represented: Lee Randolph, George Elmer Browne, Fern Gary, Gordon Grant, Marie A. Hull, Haley Lever, Clarence Millet, Luis F. Mora, Chauncey F. Ryder, Matteo Sandona, W. Lester Stevens, Anthony Thieme, John Law Walker, J. Alden Weir, John Whorf, Eliot Daingerfield, George Pierce Ennis, John E. Costogan, George Henry Taggart, William Morris, Jon Corbino, J. Connaway, Robert Brackman, Peter Hurd, Marguerite Pearson, Henry W. Ranger, John Twachtman, John F. Carlson, Gene Kloss, Earle Loran, Emil Bistran, Umberto Romano, Lez Haas, Eric Bransby, Ralph Blakelock, Frederick E. Church, Thomas Cole, Thomas Doughty, Sanford Gifford, Thomas Hill, Dominique Ingres, George Inness, Eastman Johnson, John Kensett, Ernest Lawson, John Marin, Homer Martine, Pietro Rotari, Joshua Shaw, Everett Shinn, and Benjamin West.

D. Original etchings, lithographs and other prints, including the work of Ernest Fiene, Rockwell Kent, Joe Jones, Reginald Marsh, Waldo Pierce, Herbert Dunton, Boardman Robinson, Otis Dozier, Lawrence Barrett, John Taylor Arms, Kaethe Kollowitz, Gene Kloss, Conrad Buff, Reynold W. Weidenaar, Hans Erni, Fernand Leger, Glen Alps, Harry Sternberg, and Wendell Black. There are also 24 Rembrandt replicas.

E. The Lorrain Allen Oriental Art Collection, including Japanese and Chinese bronzes and ceramics from the Ming period. Also in this collection are paintings and prints.

F. The Dr. O. K. Cosla Collection. Dr. and Mrs. Cosla of New York City have to date given BYU three paintings, one a large and important work exemplifying the Baroque style from the Studio of Rubens.

- G. The Karel Waterman Collection. Karel Waterman, a Dutch collector and connoisseur of European art, has given one large painting attributed to a disciple of Lucas Cranach.
- H. The Dr. and Mrs. Burtis France Robbins Collection was given to Brigham Young University in 1962 and consists of a total of 25 paintings and prints.
- I. Reproductions of famous works of art, including various types of modern art.
- J. Large collections of slides, including natural color slides and the George K. Lewis Memorial Collection of Kodachrome slides.

LOTTA VAN BUREN COLLECTION

The Lotta Van Buren collection of ancient instruments and music contains rare old instruments, modern reproductions of ancient instruments, literature on ancient instruments, and a library of old instrument scores. In this collection are also some ancient costumes and pictures of interest.

Among the instruments, some of which were made in the Fifteenth Century, are the following: a viola da gamba (once owned by George Frederick Handel), five viols, a cittern, an Arabian lute, a two-manual harpsichord, a virginal, an octavina, two clavichords, a hurdy-gurdy, and other such instruments.

The Van Buren collection is one of the few collections in the United States in which all instruments are in playable condition. Several concerts in which some of these instruments are used are given each year.

This unusual collection, housed in a specially-equipped room (E-400 Harris Fine Arts Center), is open for inspection by the public.

SCHOLARSHIPS AND AWARDS

Scholarships, awards, and grants-in-aid are available to qualified students in all departments of the College of Fine Arts and Communications. A number of these are reserved for high school graduates and transfer students who are qualified because of scholarship, outstanding skills, or leadership.

All scholarships and awards are under the jurisdiction of the University Scholarship Committee. Applications for such awards may be obtained from the chairman of this committee. Specific information regarding individual qualifications may be had from the chairmen of the individual departments.

For information regarding scholarships, fellowships, and grants-in-aid for graduate study, see the Brigham Young University Graduate School Catalog.

PREARCHITECTURE PROGRAM

A three-year curriculum program administered by the Civil Engineering Science Department in the College of Physical and Engineering Sciences is available to prepare those interested in architecture for entrance at the fourth-year level into a typical six-year master's-degree program at any accredited school of architecture.

Consult Page 95 and Floyd E. Breinholt, chairman of the Art Department, for further details.

General College

Lester B. Whetten, Dean (A-203 JKB)

General College has been added to the academic structure of Brigham Young University to meet more adequately the objectives and changing educational demands of the University. The college is designed to help students develop responsible citizenship in the Church and in the state, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society.

To achieve the objectives of General College and to provide for other educational needs of students the college is divided into the following departments:

American Indian Education
 General College General Curriculum
 Guided Studies
 Provisional Registration (Undetermined Major)

AMERICAN INDIAN EDUCATION DEPARTMENT

Royce P. Flandro, Chairman

The American Indian Education Department has two basic functions: (1) Prepare college students who are Indians of North, Central, and South America for successful employment and living. (2) Prepare students to work successfully among Indian people.

All American Indian students, upon admission to the University, first register in General College and later are transferred to one of the programs listed below according to the student's interest, achievements, and goals.

1. Technical and semiprofessional (two-year collegiate degree)
2. Undergraduate (four-year baccalaureate)
3. Graduate

A special program is designed to assist students in adjusting to college work and in preparing for majors in the three programs listed above. The special program has also proven to be useful to students who wish to seek employment after one year of college. Most of the freshman courses which are taught in this program are required and help to fill freshman requirements for any field of study. Special teaching methods, laboratory devices, and laboratory assistants are available for meeting the unique needs of each student who desires to avail himself of these services. Tutoring services are provided for all students who find that they need help beyond regular classroom instruction due to a deficiency in their academic backgrounds. In some instances small groups may utilize the services of a tutor. Testing and counseling services are available to assist students in assessing their abilities and interests. Occupational information, employment assistance, and student follow-up are provided. Student leadership opportunities are also available through the "Tribe of Many Feathers" and the 58th (Indian) Ward. Integration into total University life is encouraged. Financial assistance is also coordinated through this department. It stands ready to assist any department on campus in its service to American Indian students. All American Indian students are urged to maintain contact with this department before admission, during total schooling, and after leaving BYU.

Indian Studies

There is a need for professionally trained and qualified persons from many disciplines to work with and among Indian peoples. All students who plan to prepare themselves to work with Indian people should select a professional or occupational major and also pursue a program in Indian Studies.

Indian Studies is open to any student of the University and is designed for students who desire an understanding of the Indian life and problems. This preparation should thereby enhance their professional effectiveness among native Americans.

Students who desire additional information on Indian Studies may contact the Institute of Lamanite (American Indian) Studies on the campus. Students selecting Indian Studies who are planning to teach Indian students are urged to contact the coordinator of Indian Education in the College of Education early in their program.

Indian Studies is considered to be a supplement to other departmental majors.

Sequence Courses:

Credit

- | | |
|--|--------|
| 1. Anthrop. 105, Introduction to Social Anthropology | 3 |
| 2. Hist. 364, The Indian in American History (2 credits) or
Anthrop. 317, Native Peoples of North America (3 credits) | 2 or 3 |
| 3. Anthrop. 320, The North American Indian Today | 2 |

- *4. Ed. 377, Secondary Teaching Curriculum and Methods
(Special Indian Education section) (3 credits) or
Sociol. 561, Contemporary Sociological Research (2 credits)3 or 2
5. Electives (See Indian Studies adviser.)3 or 4

Total hours suggested for Indian Studies 15

*Students elect one of these three courses in practical field application depending on their major field.

GENERAL CURRICULUM

Willis M. Banks, Chairman

A two-year course leading to an associate degree is offered in General College. The program is practical in nature. Survey courses in various subject-matter areas are offered; also, practical training in home management and other fields which will help to prepare the student for future service are prescribed. In order to qualify for this degree the student must complete 32 semester hours in general education subjects, 21 hours in his chosen area of concentration, and 11 hours in elective subjects, making a total of 64 semester hours.

DEPARTMENT OF GUIDED STUDIES

Wayne R. Herlin, Chairman

Students admitted to the University on academic warning are assigned to the Department of Guided Studies, which helps these students develop abilities and skills that will allow them to compete more effectively with other students at Brigham Young University. Special assistance is available in such areas as reading, writing, mathematics, spelling, and effective study.

For further information regarding this program see the Guided Studies section of this catalog.

DEPARTMENT OF PROVISIONAL REGISTRATION

(Undetermined Major)

Wm. Dale Goodson, Chairman

Each year many students come to the University undecided as to their major field of study. These students register in the Department of Provisional Registration. In this department they are assigned an adviser who assists them with their academic programs and in choosing a college major.

An added help to these students as they attempt to choose their college major is a college orientation class offered by this department. This orientation class meets once a week for eight weeks during which time students have the opportunity to learn of the major and minor offerings of all the colleges at BYU. Occupations directly related to these college offerings are also covered.

Students who have chosen the college they desire to enter but are still undecided as to their major within that college can find suggested programs in the course section of the catalog under Provisional Registration. Students should change from General College to their new college by the end of the first year, if possible, so they can receive more specific guidance in program planning from their major adviser. This adviser in the college of their choice may guide them in meeting the necessary requirements for graduation in that college and serve as a reference for employment following graduation.

College of Humanities

Bruce B. Clark, Dean (A-129 JKB)

R. Max Rogers, Assistant Dean (A-113 JKB)

The following departments and special programs are available in the College of Humanities:

English: Dale H. West, Chairman (A-246 JKB)

Classical and Asian Languages: J. Reuben Clark, III, Chairman (331 McKay)

French and Italian: John A. Green, Chairman (355 McKay)

Germanic and Slavic Languages: Arthur R. Watkins, Chairman (321 McKay)

Spanish and Portuguese: M. Carl Gibson, Chairman (301 McKay)

Humanities and Comparative Literature: Ralph A. Britsch, Chairman (A-113B JKB)

Latin-American Studies: Wesley W. Craig, Coordinator (111 FOB)

Linguistics: Robert W. Blair, Coordinator (239 McKay)

The College of Humanities was created June 1, 1965, through a division of the College of Humanities and Social Sciences. However, the basic subject areas of literature and language taught in the college have been emphasized in the University since its beginning.

Emphasis in the college is on the study of languages, both English and foreign, and on the cultures and achievements in art and thought of the people who use these languages. In other words, the college is heavily involved in what is traditionally called liberal education, both for those students who major or minor in the college and for those who are served by it in the general education program. In their ultimate goals the humanities seek to discover, preserve, and disseminate the best of man's thoughts and creations.

There are three large purposes for which the instructional program of the College of Humanities is designed. First is intensive training in English composition and in basic comprehension of foreign languages for all students of the University. Second is the provision of a broad, liberal education through literature and other humanities courses to assist all University students to receive in the fullest measure the values to be found in today's complex civilization and to contribute to the enlargement of those values. Third is the preparation of professional men and women, highly skilled, deeply rooted in the humanities, to fill positions of responsibility and leadership in the productive affairs of our twentieth-century world, especially as teachers, but also as educated leaders in other areas.

Courses intended to contribute to the first two purposes are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each of the six regular departments and the two interdisciplinary areas. Advisers stand ready to consult with students in the selection of programs that will contribute most effectively to a broad education and to professional training. Offices for most of the teachers in the English and humanities programs are located in Annex A of the Jesse Knight Building. Offices for most of the teachers in the foreign languages and linguistics areas are located in the McKay Building.

College of Industrial and Technical Education

Ernest C. Jeppsen, Dean (120 Social Hall)

The College of Industrial and Technical Education, the most recently organized college on the Brigham Young University campus, provides a rich offering of two-year associate degree, four-year baccalaureate degree, and five-year master's degree programs in industrial and technical education. This college is designed to help students become responsible citizens in the nation and leaders in the Church, to acquaint them with their cultural heritage, and to lay the foundations for useful and productive lives in a democratic society.

While this college as such is the newest one on the campus, its beginning dates back to 1875 when a deed of trust executed by President Brigham Young expressly set forth that "... each of the boys who shall take a full course, if his physical ability will permit, shall be taught some branch of mechanism that shall be suitable to his task and capacity ..." and "... work for young women—instruction in needlework, embroidery, knitting, sewing, etc., and in domestic duties. . . ."

Programs in this college provide the specialized training necessary to prepare potential teaching and administrative personnel in industrial and technical education as well as employees for business, industry, and government. This college also offers many service courses open to all students on the campus, including courses in Evening Classes, Summer School, Home Study, and in BYU Centers for Continuing Education.

At present, the College of Industrial and Technical Education includes five departments.

DEPARTMENT OF AEROSPACE STUDIES

The Department of Aerospace Studies (AFROTC), listed for administrative purposes in this college, is under the direct supervision of regular officers of the United States Air Force. A description of the requirements and activities of this department is given in the section on Aerospace Studies under List of Courses.

DEPARTMENT OF MILITARY SCIENCE

The Department of Military Science (Army ROTC), listed for administrative purposes in this college, is under the direct supervision of regular officers of the United States Army. A description of the requirements and activities of this department is given in the section on Military Science under List of Courses.

DEPARTMENT OF INDUSTRIAL EDUCATION

The Department of Industrial Education provides baccalaureate programs for the training of industrial arts teachers for junior and senior high schools, and technical education teachers for vocational and technical schools. This department also offers master's degree graduate programs for advanced preparation toward master teacher certification and for preparation of supervisors, coordinators, and administrators in industrial and technical education.

DEPARTMENT OF INDUSTRIAL TECHNOLOGY

The Department of Industrial Technology offers four-year baccalaureate degree programs in building construction, electronics, design and drafting, and manufacturing. The latter two programs have been accredited by the Engineers' Council for Professional Development. This department also offers two-year associate degrees in industrial technician programs.

TECHNICAL INSTITUTE

The Technical Institute operates throughout the Brigham Young University campus and offers two-year technical and preprofessional associate-degree programs for the training of business technicians in accounting, secretarial service, and data processing; engineering programs for the training of chemical, civil, electrical, and electronic technicians; industrial programs for the training of drafting, graphic arts, light building construction, tool design, and welding technicians; and miscellaneous technician programs for training in genealogical research, home service, law enforcement, library service, photography, and piano technicians, and for registered (R.N.) nurses. The electronics engineering technology program is accredited by the Engineers' Council for Professional Development.

For further information, please refer to the departmental descriptions in this catalog.

Prearchitecture Program

A three-year program administered by the Civil Engineering Science Department in the College of Physical and Engineering Sciences is available to prepare those interested in architecture for entrance at the fourth-year level into a typical six-year master's-degree program at any accredited school of architecture.

Consult Page 95 and Wilford J. Tolman of the Industrial Technology Department for further details.

College of Nursing

Elaine Murphy, Acting Dean (2240 SFLC)

BACCALAUREATE DEGREE

The College of Nursing began as a department of BYU in September 1952. It was originally accredited by the National League for Nursing in April 1957, and full state accreditation has been given by the Utah State Board of Nursing.

Philosophy of the College

The philosophy of the College of Nursing is that we believe that each student must develop a basic philosophy of his own which would permit him to develop composure and have an effective working technique in solving his and others' problems; and to perform at top or near-top levels of proficiency during his career, both as a student and as a professional person upon completion of the prescribed professional course of study.

That the student will recognize that we live in a changing world; that the health profession is particularly subject to quick and dramatic changes for patients, treatments, information, and philosophy; and that we must be prepared to effect change and to accept and adjust ourselves and our work to new conditions.

That each person must continue to learn and study beyond the time that a college degree is granted or formal education for a nursing career is completed.

That movement from the simple and known to the complex and unknown requires patience, understanding, and hard work, both for the one preparing for a profession in nursing or giving professional care and for the one helping to give instruction to others.

An attempt to understand the whole area of human endeavor must be undertaken in dealing with ill people and their problems. Students and professional people need to cultivate in themselves kindness, tolerance, insight, awareness, and understanding, particularly as it relates to nursing.

A Career in Nursing

A nursing career offers a life that is interesting and a future that is secure. Throughout the world thousands of men and women are needed as nurses in hospitals, clinics, public health agencies, armed services, and comprehensive mental health centers.

To help meet this need, Brigham Young University offers two distinct nursing programs in two separate colleges—the four-year baccalaureate-degree program, College of Nursing, and the two-year associate nursing program, College of Industrial and Technical Education.

Graduates from the baccalaureate-degree program are prepared to practice as professional nurses, influencing changes which bring about a higher degree of health in their work with the patient and the total community. Graduate education leading to a master's degree in a specialty area of nursing or to a doctor's degree in a nursing or a nurse-scientist program is possible upon the completion of the baccalaureate degree in nursing. Nurses with advanced education at a master's or doctor's level are in great demand as clinicians and clinical specialists, nursing researchers, faculty, administrators in nursing education and service, and leaders in professional organizations.

ASSOCIATE-DEGREE NURSING PROGRAM

Ann Bruton, Director (LDS Health Service Center, 399 12th Avenue, Salt Lake City, Utah 84103)

The associate-degree program in nursing is designed to prepare graduates to take the State Board Test Pool Examination for licensure in Utah as registered nurses (R.N.) and to give direct bedside care to patients.

Associate-degree nursing encompasses a variety of functions which require the services of competent practitioners with varying levels of preparation. Each

of these levels represent a career in nursing and the opportunity for nurses to achieve excellence within the framework of their preparation.

For program description and curriculum plan, refer to the Technical Institute section of this catalog.

College of Physical and Engineering Sciences

Armin J. Hill, Dean (271 ESC)

The college is divided into nine departments.

Chemical Engineering Science
Chemistry
Civil Engineering Science
Electrical Engineering Science
Geology
Mathematics
Mechanical Engineering Science
Physics
Statistics

Required High School Preparation

A student enrolling in the College of Physical and Engineering Sciences will find it necessary, in order to complete the prescribed curricula without loss of time, to have successfully completed the following high school courses or their equivalents:

- 3 units of English.
- 4 units of mathematics, consisting of two and one-half units of algebra, one unit of geometry, and one-half unit of trigonometry. This should be sufficient to qualify a student to commence college mathematics with analytic geometry and calculus.
- 1 unit of physical science which should be either chemistry or physics.

Because mathematics provides the foundation for all work in the physical and engineering sciences, particular attention is paid to the high school preparation in this subject. If his high school training is found to be deficient, an entering student will be required to take remedial work. He should recognize that the time required to complete his college program will probably be extended by the length of time necessary to make up these deficiencies.

A student who will not have completed all recommended courses by the time he graduates from high school may complete them through Home Study or other courses offered by Brigham Young University. High school seniors who have the time and ability may carry special courses which will be given college credit and which may be counted toward a baccalaureate degree. Information on any of these courses will be sent upon request.

Physical and Mathematical Sciences

The Departments of Chemistry, Geology, Physics and Astronomy, Mathematics, and Statistics offer four-year courses leading to the degree of Bachelor of Arts or Bachelor of Science. Majors are offered in chemistry, chemistry teaching, predoctoral chemistry, premedical chemistry, earth science, geology, mathematics, physics, and statistics. A Master of Science degree is offered in chemistry, geology, mathematics, physics, and statistics; and a Master of Arts degree is available in chemistry and in physics. Programs leading to the Doctor of Philosophy degree are currently offered in chemistry, geology, and physics. All requirements for these advanced degrees are specified by the Graduate School and are found in the Graduate School Catalog.

Engineering Sciences

The programs in engineering offered at Brigham Young University are each built on a strong base of mathematics and science. Their primary goal is produc-

ing professional engineers who have the ability to produce creatively. Although there is some specialization in having the four departments of Chemical, Civil, Electrical, and Mechanical Engineering Science, the emphasis is on giving each student a good foundation so that he may practice effectively in any of the professional fields. (Aerospace engineering, nuclear engineering, bioengineering, and sanitary engineering are but a few examples of the fields of activity which have been entered successfully by BYU graduates.)

The curricula in chemical, civil, electrical, and mechanical engineering are each accredited by the Engineering Council for Professional Development (ECPD). Geological engineering is offered as a major in the Department of Geology.

Originally these curricula required a minimum of five years for completion of the requirements for a Bachelor of Engineering Science degree—a degree which has been recognized as being superior to the Bachelor of Science degrees awarded in the physical science and other departments at BYU. About four years ago, because of the improving quality of entering students, the requirements were modified somewhat in order to enable well-qualified students to complete in about four and one-half years. These are still officially considered five-year bachelor's-degree programs.

Predictions made by the American Society for Engineering Education show that by 1975 there will probably be at least half as many master's degrees granted annually in engineering as there will be bachelor's degrees. Trends in engineering education, as confirmed in the report made on goals in engineering education by this society, show that before long any engineering student must have a master's degree before he can consider himself fully qualified to practice his profession. Recognizing this trend, each of our engineering departments has, since 1961, offered the Master of Science degree. In 1967 approval was given to offer the Ph.D. degree in engineering.

Since a thesis is required for the Master of Science degree at BYU, and since in many cases engineering students will benefit more from working on an engineering project, the Civil Engineering Science Department has for the past year offered work leading to a Master of Engineering degree. Permission has now been obtained for the other departments to do likewise. Presently this degree will be available in civil, electrical, and mechanical engineering.

The program leading to this Master of Engineering degree has been so planned that the degree can be completed in a total of five years by a well-qualified entering freshman. He will be asked to declare his intention to work toward it sometime during his third year in residence. If, as he completes his work for this degree, he also completes all of the requirements for a Bachelor of Science degree, he can receive the degrees simultaneously. Provision is also being made for those students who for one reason or another decide not to continue for the full five years to enable them to obtain a Bachelor of Science degree upon completion of a prescribed curriculum of not less than 135 semester hours. Students desiring a special program to meet special objectives or needs will find that each of the department chairmen or the dean will be happy to discuss such a program with him.

Brigham Young University also offers two-year technician programs, which lead to a degree of Associate of Science, and four-year technology programs leading to a Bachelor of Science degree. These are offered in the College of Industrial and Technical Education and are outlined on Pages 90 to 91 in this catalog.

Students interested in training for careers in technology should carefully consider these alternatives to engineering. **It must be realized, however, that these are different KINDS of programs and that while technicians and technologists often work with engineers, and may even be classified as engineers in some kinds of employment, they will not have received training as professional engineers.** They will generally find it necessary to take most of the undergraduate engineering courses if they ever desire to become graduate or professional engineers.

Each graduate student must meet all the requirements for advanced degrees as outlined by the Graduate School and as set forth in the Graduate School Catalog. **The responsibility for knowing and fulfilling these requirements rests with the student.**

Prearchitectural Curriculum

Glenn L. Enke, chairman, Prearchitecture Advisory Committee

The major schools of architecture at various universities throughout the United States have, until recently, required five years of residence to receive a B.A. degree in architecture. Included in their curricula were courses in "architectural design," beginning with the first year of residence, which courses were not normally available at universities without a school of architecture.

Several major schools of architecture have now shifted to a six-year program culminating in an M.A. degree, with required residence confined to the last three years of study.

The first three years may be taken at any accredited university in a wide variety of major subjects, but these must include approximately 24 semester hours of courses matching the content of the first three years of "architectural design" courses given by each school of architecture to their own beginning students.

Brigham Young University has recently initiated a three-year "prearchitecture" program which will provide all necessary "architectural design" courses and others needed or desirable for transfer to any accredited school of architecture for the final three years of study toward the M.A. degree. This program is administered by the Civil Engineering Science Department. The specific curriculum content of the program is adjustable to each student and to the schools of architecture in which he or she may be interested.

College of Physical Education

Milton F. Hartvigsen, Dean (212 RB)

Clayne R. Jensen, Assistant Dean (210 RB)

This college, unique in American universities, consists of six departments:

- Health Sciences
- Intercollegiate Athletics
- Physical Education—Men
- Physical Education—Women
- Recreation Education
- Youth Leadership

The various departments offer undergraduate majors in (1) health sciences, (2) physical education, with either a sports or dance emphasis, (3) recreation education, (4) youth leadership, and (5) prephysical therapy.

The college has two significant contributions to make: service to the students and faculty, and development of professional leaders. For the benefit of the general student body and faculty, this college sponsors an extensive health education program, a great variety of physical education activity courses, extensive intramural and extramural programs, supervised free-play activities, and numerous activity clubs. For the student body, faculty, and loyal BYU supporters, the college sponsors an extensive and high-quality intercollegiate athletic program. And, for those interested in majoring in one of the areas within the college, strong professional preparation programs are offered.

All students are encouraged to participate in a variety of intramural, extramural, free-play, and club activities. Those with exceptional ability find additional opportunities in intercollegiate athletics, and all students are encouraged to support BYU's excellent athletic teams.

Through affiliation with the Western Athletic Conference and the National Collegiate Athletic Association, BYU provides opportunities in intercollegiate competition in swimming, baseball, basketball, football, golf, gymnastics, tennis, track, cross-country, and wrestling.

While opportunities for leadership by educated men and women are always unlimited, the demand is particularly high for those with professional preparation in areas within this college. Certification for teaching health or physical education in Utah may be completed at the time of graduation, and certification for teaching in other states may be arranged. Good positions in recreation

leadership are available to qualified graduates, and those who major in pre-physical therapy are successful in being admitted to various physical therapy schools. Brigham Young University is the first university to offer a major in youth leadership. The program is twofold: the training of men for professional scouting and the preparation of men and women to serve the Church and community in youth leadership positions.

The Church of Jesus Christ of Latter-day Saints, through its beliefs and teachings, has developed a unique reputation in health practices and in family, Church, and community recreation. Brigham Young University, in harmony with the objectives of the Church, plans not only for participation by its members, but for active and exemplary leadership by them. It is a goal of the College of Physical Education to help achieve this.

Department of Health Sciences. This department offers a four-year program leading to the degree of Bachelor of Science, with a teaching emphasis or a non-teaching emphasis. Students completing the teaching major are prepared to teach in public schools. Those completing the nonteaching degree may be employed by governmental or voluntary health agencies or may elect to work toward a master's degree in public health.

A driver and safety education minor, approved by the state of Utah, qualifies a teacher to teach driver education in the public schools.

The department also offers a graduate program leading to a Master of Health Education degree (no thesis required) and a program leading to a Master of Science degree (a thesis required).

Department of Intercollegiate Athletics. Brigham Young University is a member of the Western Athletic Conference and the National Collegiate Athletic Association. The school competes in all sports sponsored by the conference.

The athletic program serves as a vital educational laboratory, dedicated to teaching young men important traits which will better enable them to perpetuate the American tradition. The program is designed to develop such characteristics as ability to lead and direct, respect for discipline and authority, social and moral understanding, ability to act effectively under stress, self-discipline in the interest of accomplishment, and determination to overcome obstacles. Individual and team competition promotes cooperation, sportsmanship, health, strength, and bodily vigor in the participants.

Departments of Physical Education. These departments, one for men and one for women, work together in providing (1) service courses, (2) professional education for prospective teachers of physical education and athletic coaches on the undergraduate and graduate levels, and (3) special curricula in dance and prephysical therapy.

Physical education is planned to develop organic power and efficiency, physical fitness, skill in activities, sports knowledge, and enthusiasm for useful and desirable pursuits during leisure time throughout life. The program is also planned to develop social traits and attitudes which will prepare students for leadership roles in college, church, family, and community life. Many courses are offered on a coeducational basis.

Department of Recreation Education. This department has a number of basic functions in fulfilling its responsibility to the students, the University, the Church, and the profession. Among the responsibilities are (1) preparing professional leaders in recreation education, (2) qualifying voluntary leaders for Church and community service, (3) providing and supervising recreational activities for students and faculty, (4) sponsoring entertainment groups, such as International Folk Dancers, Ballroom Dance Team, and competitive athletic teams not sponsored by the Western Athletic Conference (volleyball, rugby, soccer, skiing), and (5) providing consultation service for campus, community, and state groups. To meet these responsibilities the department has developed an expanded curriculum and secured many new facilities (others are being planned for the immediate future) and a well-prepared faculty.

The general purpose of the expanding intramural program is to afford all students the opportunity to take part in a well-organized program which includes a wide range of activities. An extensive program for both men and women is provided.

Department of Youth Leadership. This department offers a relatively new field of career preparation. Extensive professional opportunities are now available to the graduate who has been prepared to administer the many national and local youth programs that require specialized leadership.

The student may select a curriculum particularly suited to prepare him for executive leadership with the Boy Scouts of America, or he may choose a broader field of preparation that will qualify him for employment by boys' club organizations, youth associations, achievement programs, and other such groups. Youth associations for girls, Girl Scouts, Campfire Girls, etc., demand professionally prepared women to administer their programs. A major or minor in youth leadership provides a graduate with excellent employment opportunities.

A second objective of the department, and one of far-reaching purpose, is to prepare graduates, regardless of their professional interests, for skilled volunteer leadership of youth. Such leadership is desperately needed by the Church and community organizations.

College of Religious Instruction

Daniel H. Ludlow, Dean (144 S)

The following departments are in the College of Religious Instruction:

Ancient Scripture
Church History and Doctrine
Philosophy

This college administers all religious instruction sponsored by the University.

It always has been the view of The Church of Jesus Christ of Latter-day Saints that in the training of its youth there should be a proper integration of moral and religious knowledge and values with secular knowledge. From its inception, Brigham Young University, firm in the belief that no life is full and complete unless established upon a sound ethical and religious basis, has offered courses in religion.

Many courses in the College of Religious Instruction are available to the undergraduate student, although no bachelor's degree is offered by this college. The basic philosophy underlying the educational process at Brigham Young University is that an undergraduate student studies religion simultaneously with his study of the other academic disciplines. Therefore, a student will take a course in religion each semester he is in residence rather than accumulating excessive religion credit in one semester in order to be excused from religion in another semester.

For general education requirements in religion, see the Student Academic Services section of this catalog.

Graduate Studies in Religion

The College of Religious Instruction offers six graduate degrees: Master of Religious Education (MRE), Doctor of Religious Education (DRE), Master of Arts in History of Religion (M.A.), Doctor of Philosophy in History of Religion (Ph.D.), Master of Arts in Scripture (M.A.), and Doctor of Philosophy in Scripture (Ph.D.). For a statement of the detailed requirements for each of these degrees, consult the Graduate School Catalog.

INSTITUTE OF MORMON STUDIES

Truman G. Madsen, Director (165 S)

The Institute of Mormon Studies is an interuniversity institute established to sponsor and correlate, and eventually to select and publish, research efforts in all fields that relate to Mormon culture, its history, thought, and institutions. The institute serves as a cross-disciplinary organization projecting long-range research goals and encouraging the work of established specialists.

At present the institute is functioning to develop authentic bibliographies and indexes of various Mormon-related source materials and collections; to honor distinguished scholarship by research grants and publication aids of high-quality research; and to establish a close-working relationship, not only with recognized scholars, but with associations of similar interest, and with individuals or institutions disposed to contribute to or draw upon the developing resources of the institute.

INSTITUTE OF BOOK OF MORMON PROJECTS

Paul R. Cheesman, Director (220 S)

The Institute of Book of Mormon Projects has been organized under the College of Religious Instruction for the purpose of correlating and promoting research and other studies related to the Book of Mormon. The institute will help to plan, develop, produce and distribute materials related to this sacred Nephite scripture.

College of Social Sciences

Martin B. Hickman, Acting Dean (390 M)

The following departments and special programs are available in the College of Social Sciences:

Anthropology and Archaeology
Asian Studies
Economics
European Studies
Geography
History
Institute of Government Service

International Relations
Law Enforcement
Political Science
Psychology
Sociology
Undergraduate Social Work

Man, himself, has always been a most fascinating study—what he has done, what he has thought, what he has said and how he has reacted to problems confronting him.

The social sciences study activities and relationships of man: his nature, his power to communicate, his environment, what motivates him, how his activities progress, the institutions he has created, and the important social and governmental problems with which he must deal. The social sciences are therefore related disciplines whose purpose is to help man live in the most intelligent and satisfying manner, and they utilize the modern methods of science: controlled observation, laboratory experimentation whenever possible, statistics, and analytical reasoning. Their potential significance for a troubled world is tremendous.

There are two large purposes for which the instructional program of the College of Social Sciences is designed. One is the provision of a broad education to assist those who obtain it to receive in the fullest measure the values to be found in today's complex civilization and to contribute to the enlargement of those values in an effective, acceptable manner. The other is the preparation of a more limited group as qualified contributors to the discovery of additional truth to add to our present heritage and as capable professional participants in the productive affairs of daily living.

Courses intended to contribute to the first purpose are offered as a service to all students in the University. Career programs for those who choose to do their major work in this college are offered in each department. Advisers stand ready to consult with students in the selection of studies that will contribute most effectively to a broad education and to specialized training in each department.

List of Courses

Semester System. Courses of study at Brigham Young University are offered and credit for satisfactory completion is granted on a semester basis.

Course Numbering System. Level of instruction of courses is shown by the numbers assigned:

Course Number	Type of Course
1 to 99	Preparatory and remedial (noncredit)
100 to 299	Lower division
300 to 499	Upper division
500 to 599	Advanced undergraduate or graduate
600 to 799	Graduate

Credit-Hour Designation. The three-number code which appears in parentheses immediately after each course title has the following significance:

First number:	Semester hours of credit
Second number:	Class hours of lecture, recitation, or seminar meeting per week or Minimum hours of individual study required per week
Third number:	Laboratory hours required per week or Hours of field study or individual research per week

Abbreviations and Symbols. The following abbreviations and symbols are used in the List of Courses section:

Arr.	Class or laboratory hours arranged
ea.	Credit-hour designation applies to each course number listed
F., S., Su.	Fall or Spring Semesters or Summer Session
G-AH	Fulfills general education requirements in American history and government.
G-BS	Fulfills general education requirements in biological science
G-HA	Fulfills general education requirements in humanities and aesthetics
G-ML	Fulfills general education requirements in mathematics, statistics, logic, and science
G-PS	Fulfills general education requirements in physical science
G-R	Fulfills general education requirements in religion
G-SS	Fulfills general education requirements in social science
m	Designates course which may be used to fulfill requirements for a minor
*	In Administration and Faculty section and in departmental faculty listings, faculty member on leave In Student Academic Services section general education courses which have prerequisites.
□	Course originating in one department which may count for credit in another department

Cross Referencing of Courses. Each course is listed completely only once in the catalog. If the course may count in another department, it is listed in abbreviated form in that department and is preceded by a special symbol, □.

Interdisciplinary Courses. Interdisciplinary courses are taught in several areas. In the course listing which follows, these courses, such as biological and agricultural education, devotional and forum assemblies, humanities, and physical science, appear.

Graduate Courses. For regulations governing study beyond the bachelor's degree, see the Graduate School Catalog. Advanced undergraduate or graduate courses (500 series) may be used for graduate credit with certain limitations.

Reservation of Right to Change Courses. At the time of printing of this catalog, the University intends to give the courses listed herein, but reserves the right to eliminate or discontinue any of them or to add courses.

Accounting



Professors: Andersen, Johnson, Orton, Karl M. Skousen, Taylor.

Associate Professors: Cameron, Garrison, Hubbard, K. Fred Skousen, Woodfield (chairman, 350 JKB).

Assistant Professors: Anderson, Hardy, Herde, McAllister, Palmer, Sonderegger, White.

Instructors: Brackner, LeCates.

Knowledge of accounting methodology and its ways of describing economic activity has long been a necessary part of education for careers in business. In almost all areas of business, accounting data are a fundamental source of information for purposes of decision making and control. With the rise of mechanical and electronic means of processing data, the trained accountant has been freed from many clerical tasks and is presented with wide opportunities for supervising, at a professional level, the preparation and interpretation of business data for operating management and the public.

Professional careers in accounting are to be found in three general areas: (1) management accounting (controllership), (2) public accounting, and (3) government accounting. The management accountant, as a member of the management team, provides information and advice for the purpose of planning and controlling his company's operations. The graduate who works in professional public accounting may be involved in auditing, in tax work, in financial and other advisory services, and in giving many types of advice, e.g., on data processing systems, to managements of business firms. Local and state governments, the United States General Accounting Office, the Internal Revenue Service, and other agencies provide opportunities in government accounting.

University and College Requirements

Students desiring to major in accounting must complete the University general education requirements. Scholarly committees on education for accountancy have stressed the need for courses involving communication, logic, and interpersonal relationships between man and his environment. In line with these recommendations, the faculty of the Department of Accounting encourage students to select courses from philosophy, speech and dramatic arts, sociology, psychology, anthropology, English, mathematics, and statistics in fulfilling the general University requirements and in preparing for professional careers in accounting.

In addition to general education requirements, certain courses are required of students desiring to major in departments of the College of Business. These courses are referred to as the College of Business core. Accounting majors are required to take the college core courses listed below.

Math. 108* (or equivalent)	4 hours
Econ. 111*, 112*	6 hours
Stat. 221* (may be applied toward physical science requirement)	3 hours
Acctg. 201*, 202* (Acctg. 202 is not required of accounting majors. They may omit 202 and register for 301 following 201.)	6 hours
Acctg. 232*	3 hours
Acctg. 342	3 hours
Bus. Mgt. 301, 341, and either 321 or 361	9 hours
Econ. 301 or 302	3 hours
Math. 109 (while not required, is strongly recommended)	4 hours

Those courses in the core which are denoted by an asterisk (*) in the foregoing list are to be taken while a student is assigned for advisement to the

Business Fundamentals Division of the College of Business and before he transfers into the Department of Accounting. (See requirements under College of Business.) Students will not be permitted to register for upper-division accounting courses, with the exception of Acctg. 301 and 342, until they have completed the business fundamentals portion of the college core requirements, i.e., those core courses denoted by an asterisk above, with a 2.25 grade-point average.

The remaining courses in the college core, i.e., those without an asterisk in the foregoing list, may be completed after students have transferred into the Department of Accounting.

Majors in Accounting

Majors in the Department of Accounting may elect one of two series of courses. The first is designed to help students acquire a good understanding of the fundamentals required in the practice of accounting in general; to provide some degree of competence in the measurement, control, and analysis of a business enterprise's economic resources and related liabilities and equities; and to report and interpret the periodic results of operations and financial condition to its management, investors, and other interested parties for purposes of progress evaluation, taxation, and decision making. The second is designed to provide an introduction to the principles of accounting and to provide a specialization in design and analysis of business information systems and in data processing methods.

The Major in General Accounting. Students electing this major are required to complete the following courses:

Bus. Ed. 320	3 hours
Comput. Sci. 230	3 hours
Acctg. 301, 302, 312, 356, 412, 420, and 475	21 hours
	27 hours

In addition to the minimum courses required for this major, the following courses are recommended:

Acctg. 401, 402, 403, 421, and 465	12 hours
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The Major in Management Information Systems. Students electing this major are required to complete the following courses:

Bus. Ed. 320	3 hours
Comput. Sci. 230 and 332	6 hours
Acctg. 301, 312, 332, 356, 455, and 457	18 hours
	27 hours

In addition to the minimum courses required for this major, the following courses are recommended:

Acctg. 302, 412, 420, and 475	12 hours
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Grade-Point Requirements. No more than 3 hours of "D" grade in accounting, and no more than 3 hours of "D" grade in other College of Business courses, a total of 6 hours in College of Business courses, will be allowed for graduation with a degree in accounting.

Further Preparation for Professional Careers

Students should be aware that the courses required and recommended in the foregoing lists are minimal so far as preparation for professional positions in accounting are concerned. In this age of specialization the trend is to require more and more competence of candidates for positions. Students should carefully consider the possibility of taking additional courses beyond those required for graduation, even though such a consideration might lead to an additional semester or more of preparation for the rigors of professional life.

Preparation for Advanced Degrees

The Department of Accounting currently offers a master's degree in accountancy. Accordingly, a student who is considering the possibility of schooling beyond the bachelor's level should take his undergraduate work with a concentration in general accounting as set forth in the requirements for a major above.

Students from other areas of study, including those with majors in management information systems, who desire to enter the master's program will be required to complete the college core courses and the following courses without graduate credit:

Acctg. 301, 302, 412, 420, and 475.

The Department of Accounting also offers the three-year master's-degree program. Students are permitted to enter this program during their junior year in college and complete the program at the end of one year of graduate study. Details of this program may be obtained from the coordinator of graduate studies in the Department of Accounting.

Minors in Accounting

Minors in the Department of Accounting are required to take the following courses:

Acctg. 201, 202, 301, 302, and an additional two or more hours from the course offerings of the Department of Accounting except 232, 332, 496, and courses in the 600 series.

Suggested Program for Accounting Majors

A suggested program which can be followed by accounting majors is given below. The first two years of the program will be taken while assigned to the Division of Business Fundamentals. Each student will need to make modifications in this program to meet his individual needs. Courses marked with an asterisk (*) are required for graduation by the University, college, or department.

Freshman Year

	Hours
*Relig. and dev. assy.	5
*American hist. and gov't.	3
*Biol. sci.	6
*Econ. 111 and 112	6
Engl. comp. and lit.	6
*Health	2
*Math. 108 (or equivalent)	4
*P.E.	1
Forum assy.	1
	<hr/> 34

Sophomore Year

*Relig. and dev. assy.	5
*Acctg. 201, 232, and 301	9
*Comput. Sci. 230	3
*Hum. and fine arts	3
*P.E.	1
*Phys. sci.	3
*Stat. 221	3
Math. 109 (or equivalent)	4
Forum assy.	1
	<hr/> 32

Junior Year—General Accounting

*Relig. and dev. assy.	3
*Acctg. 302, 312, 342, and 356	12
*Bus. Ed. 320	3
*Bus. Mgt. 341 and either 321 or 361	6
*Econ. 301 or 302	3
*Hum. and fine arts	3
Elective	3
Forum assy.	1
	<hr/> 34

Junior Year—Management Information Systems

*Relig. and dev. assy.	3
*Acctg. 312, 332, 342, and 356	12

Bus. Ed. 320	3
*Bus. Mgt. 341 and either 321 or 361	6
*Comput. Sci. 332	3
*Econ. 301 or 302	3
*Hum. and fine arts	3
Forum assy.	<u>1</u>
	34

Senior Year—General Accounting

*Relig. and dev. assy.	3
*Acctg. 412, 420, and 475	9
*Bus. Mgt. 301	3
Electives (consult with faculty adviser)	18
Forum assy.	<u>1</u>
	34

Senior Year—Management Information Systems

*Relig. and dev. assy.	3
*Acctg. 455 and 457	6
*Bus. Mgt. 301	3
Electives (consult with faculty adviser)	21
Forum assy.	<u>1</u>
	34

Courses**201. Elementary Accounting.** (3:3:1) F.S.Su. Home Study also. (m)

A first course in the concepts and methods underlying financial statements.

202. Elementary Accounting. (3:3:1) F.S.Su. Home Study also. (m) Prerequisite: Acctg. 201.

The second course in the elementary series covering managerial problems and the control of business operations.

□ Business Education 206. Calculating Machines. (2:3:2)**232. Mathematics of Business.** (3:3:1) F.S.Su. Prerequisite: Math. 108 or equivalent.

Application of mathematics to business problems.

301, 302. Intermediate Accounting. (3:3:0 ea.) F.S.Su. Home Study also. (m) Prerequisite: Acctg. 202 except accounting majors where prerequisite for 301 is Acctg. 201.

Intermediate course in accounting for general business students and for majors who need a broad foundation for specialized studies which they will take later.

312. Cost Accounting. (3:3:0) F.S.Su. (m) Prerequisite: Acctg. 301.

An introduction to the principles and practices of cost accounting.

□ Business Education 320. Report and Business Writing. (3:3:0)**332. Advanced Mathematics of Business.** (3:3:0) F.S. (m) Prerequisite: Acctg. 232 or Math. 111 or consent of instructor.

Selected topics from finite mathematics, vectors, and matrices, trigonometry, analytical geometry, and elementary differential and integral calculus as applied to business.

342. An Introduction to Commercial Law. (3:3:0) F.S.Su. Home Study also. (m)

A survey of modern American business law as it applies to everyday business practices.

356. Accounting Information Systems. (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 202 or 301; Comput. Sci. 230.

Procedures and problems in system design and related topics applied to the financial operations of the business with special emphasis on electronic computer systems.

401. **Special Problems in Accounting I.** (2:2:0) F.S. (Su. alternate years) (m) Prerequisite: Acctg. 302.
Includes partnerships, joint ventures, consignments, installments, receiverships, estates and trusts, and statement of affairs.
402. **Special Problems in Accounting II.** (2:2:0) F.S. (Su. alternate years) (m) Prerequisite: Acctg. 302.
Home office and branch accounts, business combinations, foreign exchange, and parent and subsidiary accounting.
403. **Accounting for Nonprofit Organizations.** (2:2:0) (Offered alternate semesters) (m) Prerequisite: Acctg. 202 or 301.
Accounting concepts and methods peculiar to governmental units, universities, hospitals, and other nonprofit organizations.
412. **Advanced Cost Accounting.** (3:3:0) F.S.Su. (m) Prerequisite: Acctg. 312.
Budgeting, standard costs, cost analysis, and capital budgeting.
420. **Federal Taxes.** (3:3:1) F.S.Su. (m) Prerequisite: Acctg. 202 or 301.
Basic federal tax legislation and regulations.
421. **Advanced Tax Problems.** (3:3:0) F.S. (Su. alternate years) (m) Prerequisite: Acctg. 420.
Advanced study of federal income tax, estate and gift taxes, and special problems in corporate taxation.
442. **Advanced Business Law.** (3:3:0) S. (m) Prerequisite: Acctg. 342.
Business law for accountants and businessmen, with emphasis on laws covered in professional accounting examinations.
455. **Data Processing Systems.** (3:3:0) F. (m) Prerequisite: Acctg. 356.
Principles governing design and installation of accounting systems and the selection of equipment for optimum performance in data processing cycles.
457. **Advanced Computer Programming.** (3:1:3) S. (m) Prerequisite: Acctg. 356.
Emphasis on the solution of practical problems in data processing. Individual work on the University's computer and comparison of various computers in current use.
465. **Auditing Theory and Professional Ethics.** (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 302, 312.
Principles and methods of public accounting, professional responsibility and conduct, and verification techniques of accounts and financial statements.
475. **Current Problems in Accounting Theory.** (3:3:0) F.S.Su. (m) Prerequisites: Acctg. 302 and 312.
Studies in current accounting theory.
486. **Contemporary Professional Accounting Problems.** (3:3:0) S. (m) Prerequisites: Acctg. 420; completion of or concurrent registration in Acctg. 465, 401, and 402.
Study in accounting problems, with emphasis on problems encountered in professional examinations.
496. **Accounting Internship.** (1-3:3:Arr.) F.S.Su. Recommended: Acctg. 465.
612. **Managerial Cost Accounting.** (3:3:0) F.S. (Su. alternate years) Prerequisites: Acctg. 302, 312.
Study of specialized areas in cost determination and cost allocation.
615. **Controllership.** (3:3:0) F.S. (Su. alternate years) Prerequisites: Acctg. 302, and 412 or 612.
Profit planning, control techniques, interpretation of data, and policy formulation.

- 621. Tax Research and Planning.** (3:3:0) (Offered alternate semesters) Pre-requisite: Acctg. 420 and preferably Acctg. 421.
Research and solving of tax problems using the tax code, regulations, and other sources.
- 665. Auditing Seminar.** (3:3:0) F.S. (Su. alternate years) Prerequisite: Acctg. 465.
A study in auditing concepts and philosophy and of their application to modern auditing methods and techniques.
- 675. Theory of Accounts and Statements.** (3:3:0) F.S. (Su. alternate years) Prerequisites: Acctg. 302, 312.
History and development of accounting and financial statements, their meaning and interpretation. Problems in current accounting theory will be considered.
- 687. Seminar in Accounting and Reporting Problems.** (3:3:0) F. Prerequisites: Acctg. 302, 420, 465, and 475.
An in-depth study into the current accounting and reporting problems and their solutions.
- 691. Seminar in Research Methodology.** (1:1:0) F.S.Su. Prerequisite: approval of graduate advisory committee.
Study of basic research methods.
- 692. Research Seminar.** (2:2:0) F.S.Su. Prerequisite: approval of graduate advisory committee.
Seminar in current topics. Includes writing a research paper in proper form.
- 693. Reading and Conference.** (1-2:1-2:0) F.S.Su.
Subject to be arranged with instructor.
- 696. Accounting Internship.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: Acctg. 302. Recommended: Acctg. 465.
Practical on-the-job experience and training with industrial and public accounting firms.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
This course number should also be used for continuing registration by students working on thesis.

Aerospace Studies



Professor: Colonel Johnson (chairman, 380 ROTC).

Assistant Professors: Captain Buckner, Major Heckel, Captain Moss, Captain Stock.

Instructors: S/Sgt. Chase, S/Sgt. Matlock, S/Sgt. Mayes, S/Sgt. Wilstead.

General Information. AFROTC program is designed to produce highly-qualified commissioned officers for the U.S. Air Force. The cadet specializes in the major field of his choice and graduates able to function as a junior executive. The aerospace studies courses supplement the academic major and are designed to teach principles and techniques of leadership and management in preparation for service as a commissioned officer in the Air Force and as a leader in civic and community affairs.

Eligibility. The beginning student must be a citizen (or have filed intent of such) of the United States. Physical and academic standards of the basic course (A.S. 100-level and 200-level courses) are the same as those of the University. To qualify for the advanced program under either the two- or four-year program the cadet must pass a mental and physical examination no later than the year preceding the entry into the professional officer course. At the beginning of the Fall Semester of his junior year, an agreement is signed to complete the last two years of AFROTC, attend four weeks' field training (except two-year students), and serve a tour of active duty with the Air Force upon graduation. He is then sworn into the Air Force Reserves. A student incurs no military obligation prior to joining the reserves.

The Four-Year Program. This is the traditional collegiate program. It extends over the full four years of college. In this program all members attend a summer four-week field training at an Air Force base, normally between the junior and senior years of college.

The Two-Year Program. This program allows a member to complete all requirements for an Air Force commission in two years of college. The applicant must fulfill admission requirements during the year that is prior to his desired enrollment. He is then sent to a six-week field training at an Air Force base during the summer. Upon return to college, the qualified applicant is then enrolled in the two-year program.

Enrollment. Four-year students normally enroll in AFROTC during their freshman year. Two-year applicants normally begin their processing during Fall Semester of their sophomore year and formally enter the program at the beginning of their junior year. Students desiring to enter the program at other times should consult the professor of aerospace studies. AFROTC is normally (but not necessarily) completed at the time of graduation.

Minor in Aerospace Studies. Students desiring aerospace studies as a minor must complete the AFROTC requirements (including at least 14 hours of course work) and qualify for a commission in the United States Air Force.

Textbooks, Uniforms, and Allowance. All items of the Air Force uniform and textbooks are furnished by the AFROTC. All students in the advanced program receive a monetary allowance of \$50 per month (about \$1,000 for two years).

College Scholarship Program. Full tuition assistance is available to AFROTC cadets in the four-year program on a competitive basis. This includes fees, tuition, \$75 per year text allowance, and \$50 per month monetary allowance.

Field Training. This training develops in the cadet a better understanding of the in-force mission and operation. Students receive practical experience in leadership and management in realistic situations on an Air Force base. The program normally includes flight for each individual. Medical care, food, and clothing are provided. Approximately \$125.00 in pay is received for a six-week training and \$120.00 for four-week training. In addition, all cadets receive travel pay of \$.06 per mile to and from the training base.

Flight Instruction Program. A flight instruction program is conducted by an accredited flying school. Senior cadets who qualify for pilot training are eligible to participate. Thirty-six and one-half hours of flying instruction are given, qualifying the student for a private pilot's license. Ground school instruction in navigation, weather flight rules, and other appropriate subjects is presented by USAF flying officers assigned to the department.

Extracurricular Activities. Each AFROTC cadet will be able to extend his academic and laboratory associations into many extracurricular activities. Among these activities are the Arnold Air Society, the AFROTC Chorus, the AFROTC Band, briefing teams, the annual Military Ball, and the many school service projects performed by the Cadet Corps. Associations and friendships formed continue long after college.

LDS Missions. It is advantageous to the student performing a Church mission to do so between the freshman and sophomore years to facilitate selection into the advanced course.

Period of Nonattendance. Four-year-program students in AFROTC who are in a five-year program are allowed a year of nonattendance between the basic and advanced courses. During this period cadets remain deferred from the draft. They must, however, participate in leadership laboratory if in deferred status. Out-of-phase students and those who will be student teaching should consult the department chairman.

Draft Deferment. Students enrolled in the AFROTC program may be deferred from the draft after they have completed one semester of aerospace studies. Normally the II-S classification is sufficient until entering the professional officer course.

Discipline. Disciplinary training in the Cadet Corps is formulated and administered by the cadets themselves. AFROTC cadets are civilians and are not subject to military law.

Veterans. A veteran seeking a commission through AFROTC may have part or all of the freshman and sophomore program waived. Allowances are paid in addition to G.I. Bill benefits.

Course Fee. A \$7.00 course fee is required of each participating student at the beginning of each semester. The purpose of this fee is to cover cadet publications, activity expenses, and laboratory costs.

Angel Flight. Angel Flight is a campus service organization. Members of the Flight (women students) are usually selected for membership during the Fall Semester. Angels are required to register for leadership laboratory in the corresponding A.S. year of their year in University ($\frac{1}{2}$ credit per semester).

The Program

The AFROTC program is designed to fit into the regular academic schedule of the University. It consists of leadership laboratory, field training, and academic classes. The first two years are designed to acquaint students with world military systems and present world conflicts. The curriculum for the final two years for students on either the two-year or the four-year program emphasizes problem solving, research methods, communications techniques, human relations, creative thinking, management, and leadership. It also provides an understanding of the United States Air Force and the many opportunities available.

A leadership laboratory is required each semester.

The academic program is taught by highly-qualified Air Force officers, and all academic work counts toward graduation requirements, with several classes also meeting general education requirements.

The following is the normal sequence of AFROTC classes. (Two-year students follow the junior and senior schedule.)

General Military Course			Professional Officer Course		
Freshman Year			Junior Year		
	F	S		F	S
A.S. 110, 111	$\frac{1}{2}$	$\frac{1}{2}$	A.S. 310, 311	3	3
A.S. 120, 121	1	1	A.S. 330, 331	$\frac{1}{2}$	$\frac{1}{2}$
Sophomore Year			Senior Year		
A.S. 220, 221	$\frac{1}{2}$	$\frac{1}{2}$	A.S. 410, 411	3	3
A.S. 210, 211	1	1	A.S. 440, 441	$\frac{1}{2}$	$\frac{1}{2}$
			A.S. 420*	2	2

*Students qualifying for the flight instruction program.

Courses

- 110, 111. Leadership Laboratory—Freshmen.** ($\frac{1}{2}$:0:2 ea.) F.S.
Basic fundamentals of military leadership, drill, courtesy, planning, organization, at various levels of responsibility.
- 120. U.S. Air Force Organization and Strategic Forces.** (1:1:0) F. Prerequisite: must comply with any Air Force entry requirements.
A study of doctrine and mission.
- 121. Aerospace Defense, General Purpose, and Support Forces.** (1:1:0) S. Prerequisite: A.S. 120 or consent of department chairman.
A survey of U.S. general purpose forces, and study of tactical air forces.
- 210. General and Limited Conflict and Alliances.** (1:1:0) F. Prerequisite: A.S. 121 or consent of department chairman.
The military role in conflict and alliance.
- 211. U.S. Defense Department.** (1:1:0) S. Prerequisite: A.S. 210 or consent of department chairman.
Its role, organization, and function.
- 220, 221. Leadership Laboratory—Sophomores.** ($\frac{1}{2}$:0:2 ea.) F.S.
- 310. Growth and Development of Aerospace Power.** (3:3:0) F. (m)
By permission only. Nature of conflict; development of aerospace power; and employment of forces.
- 311. Astronautics and Space Operations.** (3:3:0) S. (m)
By permission only. Aerospace developments and their future implications. Current and planned space operations.
- 330, 331. Leadership Laboratory—Juniors.** ($\frac{1}{2}$:0:1 ea.) F.S.
- 410. Leadership and Management.** (3:3:0) S. (m) Prerequisites: A.S. 310, 311.
By permission only. Study of principles of leadership, problem solving, communication, discipline, and human relations.
- 411. The Professional Officer.** (3:3:0) S. (m) Prerequisites: A.S. 310, 311.
By permission only. Study of Air Force management personnel policies, data processing, orientation, and Air Force control system.
- 420. Flight Instruction.** (2:2:0) F.S. Prerequisite: six semester hours of advanced aerospace studies courses.
By permission only. Proficiency in navigation, FAA regulations, and weather associated with flight to the level of a private pilot license.
- 440, 441. Leadership Laboratory—Seniors.** ($\frac{1}{2}$:0:2 ea.) F.S.

Agricultural Economics

Professors: Corbridge, Fuhrman, Nelson.

Associate Professor: Infanger (on leave 1970-71).

Assistant Professor: Wood (chairman, 475-A WLB).



The Department of Agricultural Economics emphasizes the business and economic aspects of agriculture. A wide range of electives permits a student in this department to choose course work from many different areas. The student should work with advisers from the department to adapt his study program to his particular interests and needs.

Twenty-seven hours, including Agr. Econ. 112, 325, 410, 490, 590; Econ. 111, 289, or Acctg. 232; and Stat. 221 are required for a major in agricultural economics, and students are encouraged to take either Econ. 302 or 312 or Agr. Econ. 525 in addition to the other five credits chosen in agricultural economics. Students should include Pol. Sci. 110 and Econ. 274 to satisfy the American history and government requirement. Students minoring in agricultural economics should include Agr. Econ. 112, 325, 409, and/or 410; Econ. 111; and one other course in agricultural economics. Transfer students majoring in this department must earn at least 12 credit hours in their major field at Brigham Young University. Those minoring must earn at least 7 credit hours.

A student is encouraged to concentrate on one of the following two options: (1) preprofessional, for those planning careers or graduate study; or (2) agribusiness, for those principally interested in the business and management aspects of farming or in seeking employment in related business areas.

Preprofessional Option. A student anticipating graduate training is advised to obtain a good background in mathematics, statistics, and economic theory.

The following classes should be included:

Agr. Econ. 112, 325, 410, 525
Econ. 111, 289, and/or 311, 312
Math. 105, 106, and 112 or Acctg. 232
Stat. 221, 336, and/or 337

Additional classes are recommended from among the following:

Agr. Econ. 320, 326, 350, 360, 425, 490, 550, 590
Agron. 282 and/or 151

An. Sci. 207 and/or 153

Hort. 102, and/or 103, 310

Agribusiness Option. Business training, leading to a minor in business management and/or accounting, is emphasized in this option. One of four areas of concentration can be selected in this option: (a) management, (b) livestock and range, (c) agronomy and horticulture, or (d) dairy. All concentrations will include

Pol. Sci. 110
Econ. 111 and 274
Math. 105 or 108 and 109 or Acctg. 232
Stat. 221
Acctg. 201, 202, and 232, or Math. 109
Bus. Mgt. 301, 321, 341, 361
Agr. Econ. 112, 325, 326, 380, 409, or 410 and 425

The management concentration will also include Agr. Econ. 490 and 590 and two or more courses from each of Range Sci., An. Sci. and/or Agron. and Agr. Econ. 350, 360, 409, 520, 525, and 550.
Econ. 301 or 302

The livestock concentration will include An. Sci. 121, 153, and 207; one or more from An. Sci. 325, 328, 335, 340, 345, 374, and 378; and two or more from Agron. 151, 282, 455, and/or Range Sci. 365, 462, and 466.

The dairy concentration will include An. Sci. 153, 207, 362, and 365; FSN 160; and two courses from Agron. 151, 282, 455.

The agronomy and horticulture concentration will include Agron. 151, 282, 302, 305, 455; or Hort. 310, 317, 318, 340, 380, 412.

Additional courses can and should be selected to give support in the various concentrations and options from

Agr. Econ. 320, 350, 360, 490, 525, 550, 590
Agron. 305, 457
An. Sci. 207, and/or 153
Hort. 351, 352, 430
Acctg. 301, 302, 312, and/or 420
Bus. Mgt. 321, 405, 410, 425, 442, 454, 455, 487
Econ. 289, 311, 312
Geog. 231
Stat. 336 and/or 337
Bus. Ed. 220, and/or 320
Commun. 211
Speech and Dram. Arts 101, 102

The following sequence of courses is recommended:

Freshman Year	PREPROFESSIONAL		AGRIBUSINESS	
	F	S	F	S
Relig.	2	2	2	2
Health 130	2		2	
P.E.	$\frac{1}{2}$		$\frac{1}{2}$	$\frac{1}{2}$
Math. 105 or 108		3 or 4		3 or 4
Engl. 111, 112	3	3	3	3
Agr. Econ. 112	3		3	
Pol. Sci. 110		3		3
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Forum assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Hum. and fine arts		2		2
One (or more) of the following: Agron. 151; An. Sci. 153, 207; Micro. 121; Bot. 101; Hort. 102, 103; Zool. 105	5	3	5	3
Total hours	$16\frac{1}{2}$	$17\frac{1}{2}$ or $18\frac{1}{2}$	$16\frac{1}{2}$	$17\frac{1}{2}$ or $18\frac{1}{2}$
Sophomore Year	PREPROFESSIONAL		AGRIBUSINESS	
	F	S	F	S
Relig.	2	2	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Hum. and fine arts	2	2	2	2
Econ. 111	3		3	
Econ. 274		3		3
Acctg. 201, 202			3	3
Agr. Econ. 350	3		3	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Forum assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Biol. sci.	3		3	
Acctg. 232		3		3
Electives from the areas of an. sci., agron., hort., bot., or phys. sci.	3	3		3
Total hours	$17\frac{1}{2}$	$17\frac{1}{2}$	$17\frac{1}{2}$	$17\frac{1}{2}$

Junior Year	F	S	F	S
Relig.	2	2	2	2
Agr. Econ. 325	4		4	
Agr. Econ. 326	2			2
Agr. Econ. 410		4		4
Stat. 221	3		3	
Econ. 289, 311		3		3
Agr. Econ. 320			2*	
Agr. Econ. 360				2
Econ. 289	3		3	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Forum assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Phys. sci.		3		3
Hum. and fine arts	2	2		
Electives from bus. mgt.			3	1
Electives from econ. and math.		3		
Total hours	17	18	18	18

*Optional

Senior Year	F	S	F	S
Relig.	2	2	2	2
Agr. Econ. 425		3		3
Agr. Econ. 490, 590	1	1	1	1
Agr. Econ. 525		2		
Agr. Econ. 380, 550	2	3	2	3
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Forum assy.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Electives from math., econ., bus. mgt.	12	6	12	8
Total hours	18	18	18	18

Courses

□ **Economics 111, 112. Introduction to Economic Principles and Problems.** (3:3:0 ea.)

112. Economics and Agriculture. (3:3:0) F.S. Home Study also. (G-SS m)
Corbridge, Infanger
Basic general education course in economics, with special reference to the agricultural sector of the economy.

□ **Economics 302. Price Analysis.** (3:3:0)

□ **Economics 311. Theory of Income, Employment, and the Price Level.** (3:3:0)

□ **Economics 312. Theory of Price.** (3:3:0)

320. Agricultural Business Organizations and Principles of Management. (2:2:0)
F. (m) Prerequisite: Agr. Econ. 112 or consent of instructor.

Corbridge, Infanger
Organizational structure, problems, and relative importance of the types of business units with which agriculture is concerned, and planning the organization and operation of the business.

325. Farm and Ranch Management. (4:3:2) F.S. Home Study also. (m) Pre-requisite: Agr. Econ. 112. Corbridge

Principles of farm management, including basic economic principles of optimum resource combination, farm records useful for income tax and farm management purposes, and budgeting procedures.

326. Farm Management Programming. (2:2:0) S. (m) Corbridge
Application of electronic computers to the maintenance and analysis of farm-ranch production and financial records, with special emphasis on linear programming as an aid in determining maximum profit combinations of resources and enterprises.

□ **Accounting 332. Advanced Mathematics of Business.** (3:3:0)

- 350. Land and Range Economics.** (3:3:0) F. (m) Prerequisite: Agr. Econ. 112 or consent of instructor. Fuhrman, Infanger
Analysis of economic problems related to land use, evaluation, conservation, ownership, and land management.
- 360. Law and the Farmer.** (2:2:0) S. Home Study also. (m) Nelson
A general study of the law of contracts, real and personal property, taxes, water, and estate planning, with specific applications to the problems of agriculture.
- 380. Agricultural Policy.** (2:2:0) F. (m) Infanger, Wood
A study of the basic economic principles useful in evaluating farm policy, the agricultural setting, objectives of agricultural policy, and the means of achieving desired policy objectives.
- 409. Marketing Livestock and Livestock Products.** (3:3:0) F.S. Prerequisite: Agr. Econ. 112 or Econ. 112. Wood
Economic principles and their application to the marketing of livestock products.
- 410. Agricultural Marketing.** (4:4:0) S. Home Study also. (m) Wood
Economic principles and their application to the marketing of major agricultural products.
- 425. Farm Appraisal and Finance.** (3:3:0) F. Home Study also. (m) Corbridge, Fuhrman
Training in farm appraisal for purpose of purchase, finance, and taxing. An evaluation of the principal sources of farm finance.
- 490. Seminar.** (1:1:0) F. (m)
- 520. Management of Ranch Resources.** (3:2:2) F.-(m) Prerequisites: Agr. Econ. 325, or 350; An. Sci. 335 or 340; Bot. 365.
The principles of production economics in the management of livestock for maximizing profit from range forage production in commercial ranching.
- 525. Production Economics.** (2:2:0) S. (m) (Offered 1970 and alternate years) Prerequisite: Econ. 302 or consent of instructor. Infanger, Wood
Principles concerning the optimum combination of productive resources within the farm firm and between firms.
- 550. Water and Conservation Economics.** (3:3:0) S. (m) (Offered 1971 and alternate years) Prerequisites: Agr. Econ. 110 or 112, 350; Econ. 302 or Agr. Econ. 525. Infanger, Wood
Emphasizes the role of economic analysis in the development and conservation of resources.
- 590. Seminar.** (1:1:0) S. (m)
- 595R. Individual Readings.** (1-3:Arr.:Arr. ea.) F.S.
- 597R. Individual Research.** (1-3:Arr.:Arr. ea.)

Agronomy and Horticulture

Professors: Allred, Farnsworth, Laws, Walker
(chairman, 275 WLB).

Associate Professors: Ashton, Reimschuessel.

Special Instructor: Woodward.



Agronomy and Horticulture

Students may elect to major in either agronomy or horticulture.

Agronomy deals with the scientific principles and practices of field-crop production, crop ecology, and physiology and crop improvement; and with the fertility, irrigation, management, and conservation of soils.

Horticulture deals with the production, handling, processing, and storing of fruit and vegetable crops and with flowers and other ornamental plants. Landscape planning and design for home and community beautification, turf and park management, and greenhouse and nursery operations are also included.

In these subject matter fields, knowledge of the basic principles of the biological and physical sciences is applied to the management of soils and the production of food, fiber, and ornamental plants. Emphasis is given to basic scientific principles and modern methods of practical application.

A wide variety of employment opportunities is open to students who complete the requirements for the Bachelor of Science degree in either agronomy or horticulture. Some graduates go into the farming or fruit-growing business. Others find employment in businesses related to agriculture, such as the food production and processing industries, the fertilizer and chemical industries. Still others find employment with such government agencies as the Soil Conservation Service, the Agricultural Research Service, Forest Service, or other land-managing agencies. Some graduates enter the teaching profession or serve as county agricultural agents for the state extension service, or as consultants or field agents for private industry or governmental agencies.

A substantial percentage of the graduates in agronomy and horticulture prepare themselves for further study toward an advanced degree. Specialized scientific training which is required for the Ph.D. degree enhances one's opportunities for research and college teaching as well as specialized types of work with private industry and government agencies. Graduates who take advanced training for the doctor's degree usually find excellent opportunities for professional employment.

Departmental Requirements

Students who major in either agronomy or horticulture will be expected to fulfill all of the requirements set forth under the general education program and also those listed under Graduation Requirements in this catalog. They will be expected also to complete a minimum of twenty-six hours of course work and two hours of seminar in their major.

A minor is not required, but a substantial number of supporting courses in fields closely related to the major are required. A strong preparation in mathematics and the physical and biological sciences is recommended for those who major in agronomy or horticulture.

At least half of the credit for the major in either agronomy or horticulture must be taken at Brigham Young University, and no "D" credit in the major will be counted toward fulfillment of this requirement.

AGRONOMY

Students who major in agronomy may follow one of the following options, depending upon their special interests and plans for future employment or professional activity.

- Option 1—General Agronomy
- Option 2—Soil Science
- Option 3—Crop Science
- Option 4—Agribusiness

Courses required for the major:

Agron. 151, 282, 302, 305, 340, and 491

Additional courses will be selected for the major in accordance with the option chosen and in consultation with the faculty adviser.

Supporting courses required in lieu of a minor:

Math. 105, 106
Chem. 105, 106, 151
Bio. Agr. Ed. 201 or Bot. 101
Bot. 376, 440
Hort. 102, 340; or 351, 352

Additional supporting courses are recommended from among the following:

Agr. Econ. 112, 320, 325, 410
An. Sci. 121, 221, 153, 207, 335, 340, 361
Hort. 103, 340, 351, 352, 412, 471
Bot. 110, 450, 480
Chem. 223, 384, 385
Physics 201, 202
Stat. 221

Students who wish to follow the agribusiness option with an agronomy major should complete 18 to 20 credit hours from among the following courses:

Acctg. 201, 202
Bus. Mgt. 321, 348, 361
Agr. Econ. 490, 410

An additional 13 hours are recommended from among the following courses:

Acctg. 232
Agr. Econ. 326, 350, 360, 380, 425, 520
Econ. 274

Courses

151. **Principles of Field Crop Production.** (4:3:2) F.S. (m) Allred
Crop production principles, soil-plant relationships, classification and distribution of farm crops, corn and small grain improvement, tillage, and crop rotation.
282. **General Soils.** (4:3:3) F.S. (m) Recommended: high school chemistry or one semester of college chemistry. Farnsworth, Walker
An introductory course dealing with the physical, chemical, and microbiological properties of soils.
302. **Irrigation and Drainage.** (3:2:3) S. (m) Prerequisites: Agron. 282; Math. 101 or 105. Farnsworth
Proper use of irrigation waters; irrigation water supply; water measurements; drainage in relation to the irrigation practices; drainage and alkali; drainage systems.
303. **Soil Genesis, Classification, and Survey.** (3:2:3) F. (m) Prerequisite: Agron. 282. Recommended: Geol. 111. Farnsworth, Woodward
Influence of geologic forces, climatic environment, and vegetation on the morphology and development of soils. Methods of soil classification and survey.

305. **Soil Fertility.** (4:3:3) F. (m) Prerequisites: Agron. 282, and one semester inorganic chemistry (101 or higher). Laws
Principles of soil fertility, commercial fertilizers, farm manures, green manures, and crop rotations in crop production. Soil chemical analysis, soil testing, and soil alkali.
308. **Soil and Water Conservation.** (2:2:0) F. (m) Farnsworth
Principles of soil and water conservation, erosion control, and land use for the maintenance of soil fertility and permanent agricultural production.
340. **Forage Crops.** (3:2:2) F. (m) Recommended: Agron. 151. Allred
Distribution, characteristics, identification, and establishment of all major forages adapted to grasslands of the U.S.
351. **Principles of Weed Control.** (3:3:2) S. (m) Recommended: Agron. 151, 282. Allred
Cultural, chemical, and biological methods of weed control.
414. **Soil Microbiology.** (3:2:3) S. (m) Prerequisites: Micro. 121; Agron. 282. Farnsworth, Walker
Designed to acquaint the student with microorganisms in relation to soil fertility; the activity and types of organisms in the rhizosphere; the biological processes in the soil.
453. **Root, Oil, and Specialized Crops.** (3:3:0) F. (m) Prerequisites: Agron. 151, 282. Allred
Principles and special problems related to production of sugar beets, potatoes, oil crops, and primary seed crops.
455. **Pasture Management.** (2:2:0) S. (m) Prerequisites: Agron. 151, 282. Recommended: Agron. 340. Laws
Establishment, fertilization, and management of new pastures; development of pasture systems to provide maximum grazing for livestock.
457. **Ecology of Weeds and Crops.** (2:2:0) Su. (m) Allred
Field study of important grasses, legumes, other agronomic crops, and weeds; adaptation to soil, moisture, light, and other environmental conditions; growth characteristics, utilization, and control.
459. **Plant Breeding.** (2:2:0) S. (m) Prerequisites: Bot. 276, 376, or Zool. 276. Allred
Principles of breeding and selection; practices and methods of hybridization for development of improved varieties of crop plants.
491. **Seminar.** (1:1:0) F.S.Su. (m)
Current agronomic literature. Agricultural problems. Two semesters required of all senior students majoring in agronomy.
- 495R. **Field Projects.** (2-3:0:4-6 ea.) F.S.Su.
Supervised field research and practical field problems.
- 497R. **Special Problems.** (1-2:1-2:0 ea.) F.S.
Seniors specializing in agronomy may elect research work from one to two hours during senior year.
511. **Soil Physics.** (3:2:3) S. (m) Prerequisites: Agron. 282; Math. 101 or 105; one semester inorganic chemistry (101 or higher).
Physical properties of soils and their effects upon air, water, and temperature in relation to soil management and crop production.
520. **Saline and Alkali Soils.** (3:1:6) S. (m) Prerequisites: Agron. 302, 305. Farnsworth
Physical and chemical properties of saline and alkali soils, their diagnosis, reclamation, and management for crop production.

- 560. Soil and Plant Analysis.** (2:0:6) F. Prerequisites: Agron. 305; Chem. 223.
Laws
Laboratory chemical analysis of soils and plant materials in soil and plant research.
- 598R. Agronomy Conference and Reports.** (1-2:1-2:0 ea.) F.S.Su. Prerequisite: consent of instructor.
Walker
Preparation and writing of reports on selected agronomic subjects.
- 605. Chemistry of Soil-Plant Relationships.** (4:3:3) S. (Offered 1970 and alternate years)
Laws
- 607. Soil Physical Conditions.** (3:2:3) S. (Offered 1971 and alternate years) Laws
- 614. Advanced Soil Microbiology.** (3:2:3) F. Prerequisites: Agron. 305; Micro. 121; Chem. 223.
Farnsworth
- 659. Advanced Plant Breeding.** (2:2:0) S. Allred
- 694R. Seminar.** (1:1:0 ea.) F.S.Su.
- 697R. Research.** (Arr. ea.) F.S.Su.
- 699R. Thesis for Master's Degree.** (6-9:Arr.:Arr. ea.) F.S.Su.

HORTICULTURE

Students who major in horticulture may choose to specialize in fruit and vegetable production, Option 1, or in ornamental horticulture, Option 2.

All majors in horticulture are required to take the following:

Hort. 102, 103, 471, 491R
Agron. 282, 305, 459
Bot. 101, 376, 440, 480
Chem. 105, 106, 151
Math. 105, 106

Option 1. Fruit and Vegetable Production

Required courses:

Hort. 310, 340, 351, 352, 412
Agron. 351

Recommended courses:

Agron. 151
Bot. 110, 321
Chem. 223, 384, 385

Option 2. Ornamental Horticulture

This option includes studies in floriculture, nursery, greenhouse, and turf management; landscape design, planting, and maintenance; and the development and maintenance of parks and recreational areas.

Courses required for floriculture and greenhouse production:

Hort. 112, 207, 318, 475
Bot. 205

Recommended courses:

Art 110, 120
Bot. 110
Hort. 317
Acctg. 201, 202
Bus. Mgt. 241, 256, 455
Environ. Des. 201, 330

Courses required for nursery production:

Hort. 207, 317, 412, 430
Agron. 302, 351
Bot. 110, 205

Recommended courses:

Hort. 318, 319
 Acctg. 201, 202
 Bus. Mgt. 241, 256, 455

Courses required for turf production:

Hort. 317, 319, 318, 430, 475
 Agron. 302, 351
 Bot. 110, 205

Recommended courses:

Rec. Ed. 301, 337, 387, 407
 Zool. 331

A student majoring in recreation in the College of Physical Education, who desires training in maintenance of parks and recreation areas, should register for 14 or more hours from the following:

Hort. 102, 103, 317, 318, 319, 430, or 475

Courses

- 102. Plant Propagation.** (3:2:2) F.S. (m) Ashton
 Introduction to propagation of plants by seeds, cuttings, budding, and grafting, with special emphasis on fruit and ornamental plants.
- 103. Home Landscape Design.** (3:3:0) F.S. (m)
 Principles of design and composition as applied to home ground development and related plant culture and maintenance.
- 112. Floral Design.** (2:1:2) F.S. Reimschuessel
 Principles and methods of arranging flowers and other plant materials for decorative use in the home and for exhibition.
- 207. Floriculture.** (3:2:3) F. (Offered 1971 and alternate years) (m) Reimschuessel
 Herbaceous plant culture in the greenhouse and out-of-doors.
- 310. Small-Fruit Production.** (2:2:0) S. (Offered 1971 and alternate years) (m) Ashton
 Methods of propagating, planting, growing, and handling grapes, strawberries, and other bush-type fruits for home and commercial plantings are considered.
- 317. Nursery Management.** (2:1:2) S. (Offered 1970 and alternate years) Pre-requisite: Hort. 102 or 103 or equivalent. Reimschuessel
 Principles underlying the profitable management of a nursery: site, soil, culture, and handling of nursery stock, transplanting, propagation, and pest problems.
- 318. Greenhouse Management.** (4:2:4) S. (Offered 1971 and alternate years) Pre-requisite: Hort. 207 or equivalent. Reimschuessel
 Principles underlying the management of a greenhouse; cultural practices and growing indoor plants emphasized.
- 319. Turf Management.** (2:1:2) F. (Offered 1971 and alternate years) (m) Reimschuessel
 Pre-requisite: Hort. 207 or equivalent.
 The management of turf grasses as related to climate, soil, and use on the golf course, park, and private areas.
- 340. Vegetable Crops.** (3:2:2) S. (m) Ashton
 Selection, cultural practices, harvesting, storing, and marketing of vegetable crops.
- 351, 352. Fruit Production.** (3:2:3 ea.) F.S. Prerequisite: Hort. 102. Ashton
 Fundamentals of fruit production, including status of the industry, varieties, fruiting habits, cultural practices, pruning, spraying, harvesting, and

storage. Emphasis will be given to the establishment and maintenance of deciduous orchards.

412. **Orchard Management.** (2:1:3) S. (Offered 1970 and alternate years) Ashton
Recent developments in horticulture practices will be considered, and special emphasis will be given to the establishment and management of commercial orchards.
430. **Landscape and Planting Design.** (3:0:6) F. (Offered 1971 and alternate years) (m) Prerequisite: Hort. 103. Recommended: drawing. Reimschüssel
Designs and plant combinations for private and public grounds using woody and herbaceous plants.
471. **Pest Control in Orchards and Field Crops.** (3:3:0) F. Prerequisite: Bot. 101. Recommended: Zool. 534. Ashton
Cultural, chemical, and biological methods and machines used in control of pests and diseases of orchards and field crops.
475. **Maintenance of Parks and Recreation Areas.** (4:3:2) Prerequisite: Bot. 101 or Hort. 102 or 103. Reimschüssel
General maintenance of lawns, herbaceous and woody plants in a city is considered. (Recommended for those who minor in horticulture with emphasis in park planning and management.)
- Botany 480. **Plant Pathology.** (3:2:3)
- 491R. **Seminar.** (1:1:0 ea.) F.S.
For majors in senior year. Current literature in horticulture is reviewed.
- 495R. **Special Problems in Horticulture.** (1-3:Arr.:Arr. ea.) F.S. Prerequisite: consent of department chairman.



Laboratory instruction in agronomy and horticulture

Animal Science

Professors: Cannon, Hoopes, Morris, Orme,
Shumway (chairman, 280 HGB), Wallentine.
Associate Professors: Gardner, Park.
Assistant Professor: Call.
Instructors: Andrus, Kellogg, Mikkelsen, Pace.



The Department of Animal Science offers training for the following activities: (1) commercial and government agricultural positions, (2) preparation for study toward the M.S. and Ph.D. degrees, (3) agricultural teaching, (4) positions in meat, dairy, and food industries, (5) livestock managers, (6) practical livestock farming and operation, and (7) preveterinary preparation.

A minimum of 28 credit hours of course work in animal science is required for a major. Transfer students majoring in animal science must earn at least 14 credits in their major field while in residence at Brigham Young University. Preveterinary students will find special instructions listed under the College of Biological and Agricultural Sciences in this catalog.

The animal science major should study the two curricula options listed below and choose the one which seems best suited for his needs. This may well be done after counseling with an adviser.

ANIMAL SCIENCE MAJOR

BUSINESS AND INDUSTRY OPTION

A. Required

An. Sci. 121 or equivalent, 153,
207, 311, 492, 507 or 515
Agr. Econ. 325, 409 or 410
Agron. 151 or 282
Biol. Sci.—Zool. 105 or equivalent;
Micro. 121 or 321 or Bot. 101
or Bio. Agr. Ed. 201
Phys. Sci.—Chem. 101 or 105, 151
or equivalent
Math., Stat., Logic, and Sci.—
Math. 105 or 108; Stat. 221
Soc. Sci.—Econ. 111; Agr. Econ. 112.
Acctg. 201, 202
Bus. Mgt. 301, 321

B. Suggested Electives

An. Sci.—all listed courses
Agr. Econ. 326, 350, 380, 425, 520
Agron. 302, 305, 340, 455
Range Sci. 365, 462, 466
Biol. Sci.—Zool. 417; Micro. 361,
371; Bot. 450
Math., Stat., Logic, Sci.—Math. 109
Acctg. 232
Bus. Mgt. 346, 361
Comput. Sci. 230, 331

SCIENCE OPTION

A. Required

An. Sci. 121 or equivalent, 153,
207, 311, 492, 507 or 515
Agron. 282
Biol. Sci.—Bio. Agr. Ed. 201 or
equivalent
Phys. Sci.—Chem. 105, 106, 151
or equivalent
Soc. Sci.—Agr. Econ. 112
Math., Stat., Logic, and Sci.—
Math. 105 and 106 or 111; Stat. 221

B. Suggested Electives

An. Sci.—all listed courses
Agron. 305, 340, 455
Range Sci. 365
Biol. Sci.—Zool. 203, 380, 376,
465, 483; Micro. 321, 322, 331;
Bot. 376, 450
Phys. Sci.—Chem. 223, 384, and
385; Physics 201, 202
Math., Stat., Logic, and Sci.—
Math. 109; Stat. 336, 337; Phil. 101
Engl. 316
Comput. Sci. 230, 331

Transfer students majoring in animal science must earn at least 14 credit hours in their major field at Brigham Young University.

Preveterinary requirements are listed under the College of Biological and Agricultural Sciences in this catalog.

Suggested Courses—Animal Science Major

Freshman Year			Sophomore Year		
	Industry (Hours)	Science (Hours)		Industry (Hours)	Science (Hours)
Engl. 111, 112	6	6	Relig.	4	4
Relig. 121, 122	4	4	An. Sci. 207	3	3
Health 130	2	2	An. sci. electives	3-6	3
Math. 101, 105, or 108	3	3	Chem. 151	5	5
Chem. 101	4		P.E.	1	1
Chem. 105, 106		8	Agron. or agr. econ. ..	4	4
P.E.	1	1	Math. 106		3
An. Sci. 121	3	3	Biol. sci.	6	6
An. Sci. 153	3	3	Electives	4-7	5
Electives	6	3			
Total hours	32	33	Total hours	30-36	34

Courses

□ **Biological and Agricultural Education 105. Agricultural Science and Industry.** (3:3:0) F.S.

121. Principles of Animal Production. (3:3:3) F.S.Su. Shumway
Methods of management and production of animals and animal products.

153. Fundamentals of Animal Breeding. (3:3:0) F.S. Park
Principles involved in breeding animals, including physiology of reproduction, heredity, variation, selection, and systems of breeding.

207. Feeds and Feeding. (3:3:0) F.S.Su. Prerequisites: algebra; Chem. 101; or equivalent. Gardner
Principles of nutrition and their application to all types of livestock.

208. Animal Fitting and Showing. (2:0:6) S. Shumway
Demonstrations and discussions involving merchandizing of each type of livestock.

221. Livestock and Meat Evaluation and Selection. (3:2:4) S. Orme, Park
The classification, grading, evaluation, and selection of livestock, carcasses, and wholesale cuts. Field trips required.

225. Meat Identification and Preparation. (2:1:3) F. Home Study also. Orme, Wallentine
A study of inspection, grading, identification, selection, processing, preparation, and nutritive aspects of meat and poultry.

311. Animal Physiology and Anatomy. (4:3:2) F. Prerequisite: Zool. 105 or equivalent. Hoopes
Applied study of the structure and functions of the animal body by systems.

312. Animal Hygiene. (4:3:3) S. Prerequisite: An. Sci. 311. Recommended: Micro. 121. Hoopes
Principles of animal sanitation in relation to disease prevention, with emphasis on the stockmen's approach to animal disease control.

321. Introduction to Research in Animal Science. (2:0:4) S.Su.
Designed to acquaint students with current research projects, methods, design, techniques, and procedures of research work in the animal sciences.

- 325. Meat and Meat Products.** (3:2:3) F.S.Su. Orme
The marketing and care of meat from packer to consumer, including inspection, processing, selection, and freezing. Field trips are required.
- 328. Meat Processing Methods.** (2:1:3) F.S. Orme
A study of meat product quality as related to source, preparation, and processing.
- 330. Horse Husbandry.** (2:1:3) S.Su. Pace
A brief study of breeds of horses, with emphasis on feeding, management, and selection.
- 335. Beef Cattle Production.** (3:2:3) F. Home Study also. Shumway
The application of nutrition, genetics, physiology, and management to the production of beef cattle.
- 340. Sheep Production.** (2:1:3) S. Wallentine
The application of nutrition, genetics, physiology, and management of range and farm sheep operations.
- 345. Swine Production.** (2:1:3) S. (Offered alternate years) Orme
The application of nutrition, genetics, and physiology to the production of swine.
- 361. Elements of Dairying.** (4:3:3) F. (m) Gardner
General principles of breeding, feeding, and management of dairy cattle.
- 362R. Advanced Dairy Production Laboratory.** (1-2:0:3-6 ea.) F.S. Academic credit limited to one year. Prerequisite: completion of or concurrent registration in An. Sci. 361.
The application of nutrition, genetics, physiology, and management to the production of dairy cattle.
- 365. Milk and Milk Processing** (3:2:2) F. Home Study also. Call
Modern methods of processing and distribution of market milk and related products.
- 374. The Science of Poultry Production.** (4:3:3) F. Morris
Emphasis will be placed on problems of feeding, environmental control, disease control, and business management.
- 378. Turkey Management.** (2:0:4) S. Morris
Principles, practices, and problems of turkey production, including brooding, feeding, growing, and marketing.
- 421R. Advanced Topics in Livestock and Meat Evaluation.** (1:0:3 ea.) F. Pre-requisites: An. Sci. 221; consent of instructor. Orme, Park
- 462. Reproductive Physiology of Domestic Animals.** (3:3:0) S.Su. Prerequisite: An. Sci. 311. Park
A study of the principles of reproductive physiology in farm animals and their application to modern livestock research and management.
- 464. Reproductive Physiology Laboratory.** (1:0:2) S.Su. Prerequisite: completion of or concurrent registration in An. Sci. 462. Hoopes, Park
- 492. Seminar.** (2:2:0) F.S.Su.
A critical review and analysis of current research, findings, and methods in animal agriculture.
- 495R. Special Problems in Animal Science.** (1-3:Arr.:Arr. ea.) F.S. Prerequisite: consent of instructor.
Seniors elect special research problems under the direction of advisers.

- 507. Animal Nutrition.** (3:3:0) S. (m) Prerequisites: An. Sci. 207; Chem. 151 or equivalent. Recommended: Chem. 384.
A study of the functions of nutrients in metabolism, measuring feed values, assessing nutrient requirements.
- 508. Animal Nutrition Laboratory.** (2:0:6) S. Prerequisite: completion of or concurrent registration in An. Sci. 507.
Sampling methods, chemical analysis of feed and blood, digestion trials; classical nutritional deficiencies, and research techniques are studied.
- 515. Advanced Animal Breeding.** (3:3:0) F. Prerequisite: An. Sci. 153 or a genetics course.
Application of genetic principles for livestock improvement. Emphasis on selection methods and mating systems.
- 525. Meat and Food Processing Plant Operations.** (2-6:1-11:10-30) F.S.Su. Prerequisites: An. Sci. 325, 328; Agr. Econ. 410 or equivalent.
- **Statistics 531. Experimental Design.** (3:3:0)
- 560. Advanced Dairy Production.** (3:3:0) S. (Offered 1971 and alternate years)
Includes the physiology and biochemistry of lactation, genetic improvement, dairy layout design, disease control, nutritional requirements. Gardner
- 601. Experimental Animal Techniques.** (2:2:0) F.S.
- 660. Advanced Livestock Management.** (2:1:3) S.
- 691R. Special Topics in Animal and Meat Science.** (1-2:0:3-6 ea.) F.S.
- 692R. Seminar.** (1:2:0 ea.) F.S.
- 699R. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.



Intercollegiate competition of animal science students

Anthropology and Archaeology

Professors: Christensen, Jakeman.

Associate Professor: Myers (chairman, 150 M).

Assistant Professors: Berge, Matheny.



Anthropologists study rituals and beliefs, systems of kinship and marriage, political and legal institutions, economics, languages, and other ways of life of living human groups. The ultimate aim of these studies is the discovery of the common elements in the cultures of all societies or the regularities of human group behavior. Anthropologists also investigate the variation of man as a biological species, both from the evidence of his physical remains and from the evidence of the physical characteristics of living peoples. Anthropology is therefore both a social and a biological science but has its main interest in the workings of culture and shares much of its theory and method with sociology and psychology.

Archaeology is the science which investigates the cultural history of man through the evidence of his actual material remains—ruined buildings, broken implements and pottery, ancient art works, monuments and tablets bearing inscribed records, etc. By means of such evidence archaeologists are able not only to reconstruct much of the unwritten past of man but also to increase our knowledge of the ancient historic periods. Like history, it is also one of the humanities as well as a social science in part of its work.

Although anthropology and archaeology each have important extraneous connections, the two disciplines are closely related to each other. Cultural anthropologists provide archaeologists with data and concepts used by the latter in interpreting the remains of ancient peoples. Archaeologists often supply cultural and physical anthropologists with evidences of the cultural and physical variations of early man.

A basic understanding of the concepts, methods, and substantive knowledge of each of these two fields is required of every student who qualifies for a baccalaureate degree in this department (see General Introductory Courses below). Students majoring in the anthropology curriculum are awarded the Bachelor of Science degree upon the successful completion of the prescribed course of study; whereas the archaeology curriculum leads to the Bachelor of Arts degree. Anthropology majors may concentrate in ethnology or social anthropology; while the student who chooses the archaeology major may concentrate in either historic archaeology (biblical, near Eastern, classical, and early Christian) or prehistoric archaeology.

Students majoring in this department are not required to have a minor field for graduation but will be counseled by their advisers concerning complementary courses to be taken in other departments of the University. Minors in both anthropology and archaeology are offered, however, for students majoring in other departments (see under Anthropology and Archaeology below).

General Introductory Courses

Every student majoring in this department is required to complete thirty-four semester hours including the following general introductory courses: Anthropol. 101 and 105; Arch. 101 and 102. Also Anthropol. 120 must be taken by all majors except those concentrating in historic archaeology. It is to the student's advantage to have completed these courses by the end of his sophomore year. These general

introductory courses are not sequent courses, but it is recommended that Anthrop. 101 and Arch. 101 be taken first. For students not majoring in this department, any of these courses may be taken without prerequisites and in any order desired.

ANTHROPOLOGY

Professional qualification as an anthropologist requires graduate training, ideally to the Doctor of Philosophy degree. Once a student has obtained a broad knowledge of the discipline at the undergraduate level, he usually specializes in graduate school as an ethnologist, social or cultural anthropologist, linguist, or physical anthropologist.

The undergraduate major in anthropology requires, in addition to the general introductory courses listed above, nineteen semester hours of anthropology courses which must include two courses selected from Anthrop. 211, 317, 318, 319, 320, 325, 330, 340, 350, and 360; two courses selected from Anthrop. 430, 431, 432, and 433; as well as two courses from Anthrop. 480, 481, and 490R. It is also strongly recommended for students who intend to pursue graduate work in this field that they take Engl. 316, Technical Writing. The remainder of the courses required for the major are to be selected in the student's field of special interest in consultation with his adviser.

In anthropological parlance the term ethnography refers to the descriptive accounts of the cultural and social life of peoples. All branches of anthropology make use of ethnographic data; yet each branch has its own theoretical and methodological interests and differs in the use made of such data. The ethnologist uses them to trace the migrations of peoples and to reconstruct culture history. The linguist employs ethnographic data in his study of the relationship between language and culture. The data provides the physical anthropologists with material for study of the biological component in culture. The social anthropologist studies social process as this goes on in the here-and-now of contemporary societies, which involves the role of custom in marking out and maintaining the key relationships in the social structure. Ethnographic data are also of great value to students in archaeology. It is because of the general use made of ethnographic data that all anthropology majors are required to complete at least two courses in the series which includes Anthrop. 211 and 317 to 360.

An undergraduate minor in anthropology for students majoring in other departments requires the completion of sixteen semester hours in the subject matter of this field, including Anthrop. 101, 105, and one of 480, 481, and 490R. This subject makes a valuable minor to accompany a major in archaeology, sociology, psychology, political science, geography, or a foreign language.

Areas of Concentration

Ethnology. The basic concern of the ethnologist is the reconstruction of cultural history. This objective is accomplished through a process of "historical-upstreaming" wherein it is required to study the regional variations and distribution of cultural, linguistic, and racial groups and matters such as technology, invention, and diffusion. The ethnologist must have a wide comparative knowledge of the peoples and cultures of the world. Students concentrating in this area should select their courses from among the following: Anthrop. 211, 317, 318, 319, 325, 340, 350, 360, and 490R.

Social Anthropology. The social anthropologist studies regularized or institutionalized human behavior as it occurs in the context of kinship, marriage, and family relationships; political actions and legal procedures; economic activities; and religious and cult affairs. He also studies the interrelationship of these activities in the total flow of social life. His interest embraces both contemporary societies and historical ones where adequate descriptive data are available. Through such studies he attempts to learn what is common and general in all human societies. So the student in this field should not only be grounded in theory and method, but also have a good foundation in the comparative ethnography of various peoples.

Anthropology majors wishing to concentrate in this field should select their courses from among the following: Anthrop. 430, 431, 432, 433, 480, 481, and 490R, and Sociol. 552.

Courses not offered one year are normally given the next year.

Courses

101. **Introduction to Anthropology.** (3:3:0) F.S. Home Study also. (G-SS) Christensen, Matheny, Myers
Concept of culture, continuity of culture, human variation, primitive society, distribution of linguistic groups.
105. **Introduction to Social Anthropology.** (3:3:0) F.S. (G-SS) Myers
Scope, concepts, and methods; cultural and universal needs; transmission and adaptations of culture; social organization in the family and wider society; beliefs, values, social control.
120. **Physical Anthropology.** (3:3:0) F. Home Study also. (G-SS) Matheny
Human biology, with emphasis on fossil man and human variation.
211. **Cultures of the World.** (3:2:2) S. (G-SS) Berge, Matheny
Variation of behavioral patterns seen through a study of sample societies. Geographical distributions of cultural features. Techniques for comparing cultural complexities.
300. **Osteology.** (3:1:4) S. (G-SS) Prerequisite: Anthrop. 120. Berge
The identification of human skeletal features; problems of sex and age; comparative techniques in relation to animal bones.
317. **Native Peoples of North America.** (3:3:0) F. (G-SS) Matheny, Myers
Adaptation to environment, social organization, beliefs, and values of North American Indians.
318. **Native Peoples of Middle America.** (2:2:0) S. (G-SS) Jakeman
A survey of the Indian peoples of Mexico, Central America, and the West Indies at European contact, with special attention to those of Mesoamerica.
319. **Native Peoples of South America.** (2:2:0) S. (G-SS) Christensen
A survey of the Indian peoples of South America at European contact, with special attention to those of the Central Andean region.
320. **The North American Indian Today.** (2:2:0) S. (G-SS) Myers
Conditions among and problems confronting the major Indian groups of North America at the present day.
325. **Peasant Societies of Latin America.** (3:3:0) F. (G-SS) Spencer
Social structure and culture of contemporary peasant societies; the interrelationships with larger society, acculturation, and change.
- Linguistics 325. **Introduction to Descriptive Linguistics.** (3:3:0)
- Linguistics 326. **Introduction to Historical and Comparative Linguistics.**
330. **Peoples of Africa.** (3:3:0) S. (G-SS) Myers
A survey of the peoples of Africa south of the Sahara; their adaptation to environment, social organization, beliefs, and values.
340. **Peoples of the Middle East.** (3:3:0) F. (G-SS) Matheny
A survey of the peoples of the Middle East, with emphasis on social systems. Includes the nomads and settled agriculturists as well as urban peoples.
350. **Peoples of South and East Asia.** (3:3:0) S. (G-SS) Matheny
A survey of the peoples of south and east Asia, with emphasis on cultural traditions. Includes social organization, beliefs, and values.
360. **Peoples of Polynesia.** (3:3:0) S. (G-SS) Berge
A survey of the peoples of Polynesia; their physical characteristics; adaptation to environment; social organization, beliefs, and values.

□English 391. **Studies in Folklore.** (3:3:0) F.Su.

430. **Moral and Ritual Institutions.** (3:3:0) F. (G-SS) Myers
Religion, magic, witchcraft, sorcery, mythology, cosmology, totemism; morality in the simpler societies in relation to ritual and belief; comparative religion.

431. **Systems of Kinship and Marriage.** (3:3:0) F. (G-SS) Myers
Types of kinship and marriage systems in various societies; their relationship to political, legal, economic, and ritual institutions.

432. **Political and Legal Institutions—Primitive Peoples.** (3:3:0) S. (G-SS) Myers
Stateless societies and the evolution of the state; kingship, chiefship, and achieved leadership; councils; warfare; law, custom, and public and private wrongs; sanctions; judicial institutions.

433. **Economic Institutions.** (3:3:0) S. (G-SS) Myers
Organization of production, consumption, and exchange, and their relation to other structured activities in nonindustrial societies; wealth, capital, labor, land tenure, and property.

480. **Theoretical Social Anthropology.** (3:3:0) F. Myers
The development of scientific social anthropology since 1850, with emphasis on modern trends in theory.

481. **Field Methods in Social Anthropology.** (2:2:1) S. Myers
The interrelationship between field methods and theory; the development of field techniques; field excursion.

490R. **Seminar.** (2:2:0 ea.) F.S. Prerequisites: Anthropol. 101, 105, 120.
Berge, Matheny, Myers

□Linguistics 493. **Readings in Linguistics.** (1-3:0:Arr.)

□Sociology 552. **Personality: Culture and Society.** (3:3:0)

ARCHAEOLOGY

Instruction offered in this department is concerned with both prehistoric and historic archaeology. Special attention is given to methods of archaeological research, and provision is made for practical training in field and laboratory procedures. Undergraduate students may participate in excavations at sites in southeastern Utah and Nauvoo, Illinois, while graduate students may sometimes accompany expeditions to Mexico and Central America.

The undergraduate major in archaeology requires, in addition to the general introductory courses listed above, nineteen semester hours of archaeology credit which must include Arch. 255, at least one session (4 credit hours) of 455R, and twelve additional semester hours of archaeology courses for those students concentrating in prehistoric and fifteen additional semester hours for those concentrating in historic archaeology. These additional required courses should be chosen in consultation with the student's adviser from those listed below under prehistoric and historic archaeology. It is also required of students who intend to pursue graduate work in this field that they take Engl. 316, Technical Writing.

An undergraduate minor in archaeology requires the completion of sixteen semester hours in this subject including Arch. 101, 102, 103. This subject is a valuable complement to a major in arthropology, history, art, or ancient languages, as well as studies in the Hebrew-Christian and Latter-day Saint scriptures.

Areas of Concentration

Prehistoric Archaeology. Prehistoric archaeology is a branch of anthropology in most American universities, and students studying in this area should plan to become anthropologists. Emphasis is directed to the understanding of the culture history of the American Southwest and the high civilizations of Mesoamerica.

Archaeology majors wishing to concentrate in prehistoric archaeology should choose their upper-division courses from the following in addition to those listed above: Arch. 300, 355, 365, 375, and 415.

Historic Archaeology. There are two directions in which students of historic archaeology may apply themselves. One is text-centered, which generally involves using archaeology to check and clarify documentary accounts. The other is text-aided, where documents are used to interpret archaeological materials. Students interested in text-centered archaeology should plan to become historians as well as archaeologists. Those desiring to use text-aided archaeology should also have a knowledge of historical research methods. Archaeology majors wishing to concentrate in historic archaeology should choose their upper-division courses from the following in addition to those listed above: Arch. 310, 318, 350, 355, 435, 456R, and Hist. 300.

Graduate Studies in Archaeology

The graduate major and minor in archaeology are also offered. The graduate major, leading to the Master of Arts degree, further prepares the student for teaching and research in this field. The best preparation for a professional career in archaeology is the Doctor of Philosophy degree.

For the master's degree in archaeology, at least fifteen semester hours of graduate credit are required in this subject, with at least nine additional semester hours in a minor field approved by the department, as well as an acceptable thesis. (For further information on the requirements for the master's degree in archaeology, see the Graduate School Catalog.)

Courses not given one year are normally given the next year.

Courses

- 101. Introduction to Archaeology: Old World.** (3:3:0) F.S. (G-SS)
Berge, Christensen, Jakeman
Fundamentals of archaeology, both prehistoric and historic; and a survey of the known antiquities and archaeological history of the Old World, especially its ancient civilizations.
- 102. Introduction to Archaeology: New World.** (3:3:0) F.S. (G-SS) Prerequisite: Arch. 210.
Berge, Christensen, Jakeman
A survey of the known antiquities and archaeological history of the New World, especially its ancient civilizations; and the general methods and main problems of archaeology.
- 103. Introductory Archaeology Laboratory.** (1:0:2) F.S. (G-SS) Prerequisites: completion of or concurrent registration in Arch. 101, 102, or 210.
Berge, Metheny
An initial study of archaeological features and artifacts found in Utah; includes a field trip to ruins within the state. Fee.
- 210. Archaeology of Utah.** (3:3:0) F. Prerequisites: Arch. 101 and 102, or consent of instructor.
Berge, Matheny
Development of culture in prehistoric Utah, with emphasis on chronology, cultural continuity and change, and culture classification; and the culture-history of modern Indian groups.
- 255. Primitive and Ancient Technology.** (3:1:4) F. Prerequisites: Arch. 101, 102.
Berge, Jakeman
The means by which material things were produced in early times, and student participation in experimental production of artifacts.
- 300. Prehistoric Archaeology of the Old World.** (2:2:0) S. (G-SS)
Berge, Christensen
The early culture history of the eastern hemisphere to the rise of civilizations.
- **History 300. Ancient Near-Eastern History.** (2:2:0)

- 310. Historic Near-Eastern and Biblical Archaeology.** (3:3:0) F. (G-SS) Christensen, Jakeman
The antiquities of the Near East (Egypt and western Asia), and the ancient history and civilizations of that area in the light of modern archaeological findings.
- 318. Classical and Christian Archaeology.** (2:2:0) S. (G-SS) Christensen, Jakeman
The major excavations, monuments, and art works of the Mediterranean region, checking and illustrating ancient Graeco-Roman and early Christian history.
- 350. Ancient History and Civilizations of Middle America.** (3:3:0) F. (G-SS) Christensen, Jakeman
The pre-Spanish history of Mexico and Central America according to early accounts, including the Book of Mormon, with a preliminary archaeological checking.
- 355. Mesoamerican Archaeology.** (3:3:0) S. (G-SS) Jakeman, Matheny
The early culture-history of Middle America, specifically the area of its ancient civilizations; and correlations with this area's early chronicled history studied in Arch. 350.
- 365. Archaeology of South America.** (3:3:0) S. (G-SS) Christensen
Archaeological research in South America, especially Peru; these findings compared with the early chronicled history of the latter area.
- 375. Archaeology of North America.** (3:3:0) S. (G-SS) Christensen, Matheny
The archaeological history of North America.
- 415. Southwestern Archaeology.** (3:2:2) F. (G-SS) Berge, Matheny
The prehistoric culture-history of southwestern United States and northern Mexico, with emphasis on chronology and culture classification.
- 435. Historical Archaeology of North America.** (3:2:2) S. (G-SS) Berge
A survey of the techniques, data, and aims of archaeological research in the material culture of post-Columbian America.
- 455R. Field School of Archaeology.** (4:10:40 ea.) Su. Prerequisite: consent of instructor. Berge, Matheny
Attendance at field school located in Montezuma Canyon, southeastern Utah. Training in excavation and survey techniques and in laboratory procedure.
- 456R. Field Methods of Historic Archaeology.** (1-5:2:15-30 ea.) Su. Berge, Matheny
Student participation in the excavation of an historic site.
- 500. History and Theory of Archaeology.** (2:2:0) F. (G-SS) Christensen, Jakeman
The development of archaeology as a scientific discipline, and the theoretical foundations upon which it rests.
- 505. Research Design.** (3:3:0) F. Prerequisite: consent of instructor. Berge, Matheny
Orientation to research, with emphasis upon interdisciplinary approaches to archaeological problems.
- 510. Classification of Material Culture.** (3:2:1) S. Berge, Matheny
Systems and procedures of taxonomy for material culture, with emphasis upon classification of ceramics.
- 541. Museum Studies.** (1-4:1:2-6) F.
- 545. Advanced Near-Eastern and Mediterranean Archaeology.** (3:2:2) F. Prerequisite: Arch. 310. Recommended: Arch. 318. Christensen, Jakeman
Recent developments and current problems in Near-Eastern and Mediterranean archaeological research.

555. **Advanced Mesoamerican Archaeology.** (3:2:2) S. Prerequisite: Arch. 350.
Recommended: Arch. 355. Jakeman, Matheny
Recent developments and current problems in Mesoamerican archaeological research.
- 590R. **Seminar.** (2:2:0 ea.) S.
611. **Introduction to Ancient Near-Eastern Iconography.** (2:2:0) F. Jakeman
A study of the motifs and symbolism of Mesopotamian, Egyptian, Israelite, and other ancient Near-Eastern art.
631. **Introduction to Mesoamerican Hieroglyphics and Iconography.** (2:2:0) F. Jakeman
The ancient Mayan and Mexican writing and calendar systems, and the motifs and symbolism of ancient Mesoamerican art.
- 651R. **Advanced Field Methods of Archaeology.** (5:0:15 ea.) F.S.Su.
Further in-service training in field methods at a current excavation in southern Utah, Mexico, or Central America.
671. **Advanced Interpretative Methods.** (2:2:2) F.S. Berge
Methods of quantitative handling of archaeological data, such as statistical and computer analysis; new techniques of absolute dating with the aid of physics and chemistry.
- 695R. **Library Research.** (2:0:6 ea.) F.S.Su. Prerequisite: consent of instructor.
697. **Field Research.** (5-10:0:15-30) F.S.Su.
Individual field research in western United States, Middle America, Peru, or the Near East.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su



Excavation in Campeche, Mexico

Art



Professors: Andrus, Gunn, Mathews, Turner.

Associate Professors: Breinholt (chairman, C-502B HFAC), Darais, Johansen, Magleby, Tippetts, Weaver, Wilson.

Assistant Professors: Alder, Allen, Barrus, Burnside, Fletcher, Raty, Stout.

Instructors: Anderson, Marshall, Southey, Takasaki, Whitaker.

The Harris Fine Arts Center houses the Art Department. The B. F. Larsen Gallery, Elbert H. Eastman Special Collections Room, and a new department art gallery provide historical and current displays of art.

Students planning a career in art may select from nine fields of concentration. Programs for the general education student are also available.

The Art Department offers programs in the following fields:

Art Education

Art Crafts

Art History

Ceramics

Commercial Design

Industrial Design

Painting

Printmaking

Sculpture

Service courses for nonart majors

Four degrees are available for art majors:

Bachelor of Arts

Bachelor of Fine Arts

Master of Arts

Master of Fine Arts

Master degrees are detailed in the Graduate School Catalog.

Bachelor of Arts Degree

A liberal arts degree is offered to students completing the University's general education requirements detailed under Student Academic Services in an earlier section of this catalog.

The Art Department requirements for the B.A. degree are as follows:

Fundamentals—Art 120, 121, 122 (should be taken in sequence).

Graphic Core—At least 6 hours from Art 227, 233, 239, 250.

Plastic Core—At least 4 hours from Art 256, 259, 263.

Art History—At least 7 hours (Art 301 recommended as preface course).

Art Electives—At least 20 hours. (Additional work is urged; see your adviser.)

Bachelor of Fine Arts Degree

A degree with emphasis on performance is offered to students who apply after successfully completing Art 120, 121, and who qualify with a faculty evaluation of their work. Students receiving an "A" grade in Art 120 and 121 will be admitted without a portfolio examination by the faculty. Students will make application for acceptance in the BFA program prior to the completion of their sophomore year. Transfer students may be admitted with faculty approval.

At the beginning of the BFA program a special adviser is assigned to each BFA student. Senior year BFA students are required to complete a terminal project in their area of concentration which may be retained by the department.

The Bachelor of Fine Arts student must meet the following general education requirements: English, 6 hours; P.E. 2 hours; Health 120, 2 hours; social science,

3 hours; biological science, 3 hours; physical science, 3 hours; Hist. 170, 3 hours; humanities, 6 hours (including 2 hours of literature).

Industrial Design Program

Freshman Year

Relig.	2	Relig.	2
Dev. assy.	$\frac{1}{2}$	Dev. assy.	$\frac{1}{2}$
P.E.	$\frac{1}{2}$	P.E.	$\frac{1}{2}$
Engl.	3	Engl.	3
Art 120	3	Art 122	3
Art 121	3	Art 212	2*
Environ. Des. 201	3	Indus. Ed. 129	3
Indus. Ed. 100	3	Drafting 111	3
	<hr/>		<hr/>
	18		17

Sophomore Year

Relig.	2	Relig.	2
Dev. assy.	$\frac{1}{2}$	Dev. assy.	$\frac{1}{2}$
P.E.	$\frac{1}{2}$	P.E.	$\frac{1}{2}$
Physics 177	3	Commun.	3
Art 233	2	Art 227	2
Art 239	2	Art 259	2
Art 250	2	Art 263	2
Art 256	2	Art 412R	3
Art 312	2	Environ. Des. 330	3
Art 322	2		<hr/>
	<hr/>		18
	18		

Junior Year

Relig.	2	Relig.	2
Sci.	3	Hum.	2
Art 301	3	Sci.	3
Art 310	2	Art 309	2
Art 412R	3	Art 412R	3
Art 413R	2*	Art 413R	2
Indus. Tech. 132	3	Indus. Ed. 460	3
	<hr/>		<hr/>
	18		17

Senior Year

Relig.	2	Relig.	2
Sci.	3	Health	2
Art 408	2	Art 412R	3
Art 412R	3	Art 413R	2*
Art 413R	2*	Hist. 170	3
Art 425R	2*	Art 425R	2*
Art 410R	3	Elective	2
	<hr/>		<hr/>
	17		16

Total Hours - 139

*New courses

The Art Department requirements for the BFA degree are as follows:

Fundamentals—Art 120, 121, 122 (should be taken in sequence).

Graphic Core—Art 227, 233, 239, 250.

Plastic Core—Art 212, 256, 259, 263.

Art History—At least 7 hours (Art 301 recommended as preface course).

Art Electives—Minimum of 10 hours.

Advanced Design—Art 310.

Advanced Drawing—At least 4 hours.

Field of Concentration—Minimum of 20 hours (additional work urged) in one of the fields below:

Area H, ceramics and crafts; Area I, commercial design; Area J, industrial design*; Area K, painting; Area L, printmaking, supplemented with 8 hours of painting; Area M, sculpture.

*See special program for industrial design and adviser.

Art Education

Prospective art teachers in secondary schools should be majors in the Art Department under the College of Fine Arts and Communications. To coordinate the candidates training and certification for teaching, supervision of records and program direction is under the TCO (Teacher Certification Office). All departments therefore list their departmental offerings with the College of Education. Details for credentials and Art Department requirements are listed in the catalog under the Education Department.

Students who intend to teach on the secondary level have these two options: A. Secondary teachers may elect an art teaching major and select a teaching minor in another department. B. Secondary teachers may fill a composite teaching major in art. The three areas from which the dominant and two supporting fields may be chosen are (1) crafts and sculpture, (2) drawing and painting, and (3) commercial design. Interior design is currently administered by the College of Family Living. At the present time the state of California does not accept composite teaching majors.

The sequence of education courses begins with Ed. 301 in the second semester of the sophomore year unless a special program is approved by TCO. See details listed under Preparation for Secondary School Teachers in the Education section of this catalog.

Art education students may participate in the BFA program, but they should expect a heavier total credit-hour load.

Courses Repeated for Credit

Course numbers followed with an "R" may be repeated for credit. The "R" classes are designed to offer a block of time for concentrated study toward maturity in one of the fields of concentration.

Area A. Art Experiences for Nonart Majors

101. Introduction to Art. (2:2:0) F.S. (G-HA) Turner

A survey of art appreciation. Introduction to basic understanding in art, with emphasis on art processes through lectures, demonstrations, and studio and gallery visits.

108. General Art. (2:2:2) F.S.Su. (G-HA)

Introduction to appreciation and creative expression. Lectures, demonstrations, and exploratory experiences in painting, lettering, crafts, printmaking, and modeling. Offered to meet the needs of students filling general education requirements who wish to participate in art activities.

110. Design in Everyday Life. (2:3:0) F.S. Home Study also. (G-HA)

A study of good taste and sensitivity to design in contemporary life. Section 5 reserved for industrial technology students.

324. Arts and Crafts for Elementary Teachers. (2:2:1) F.S.

Alder

Simple weaving, puppetry, papier-maché, clay modeling, and other activities suitable for children.

326. Art for Elementary Teachers. (5:2:6) F.S.Su. Home Study also.

Alder, Allen, Breinholt, Fletcher, Gunn,
Raty, Tippetts, Weaver, Wilson

Role of art in public schools; basic art education theory, including levels

of artistic growth, classroom activities, and aesthetic experiences for teacher growth, studio experiences in arts and crafts.

Nonart majors may also take any art history class or any 200-numbered course.

Area B. Fundamental Classes (required of all art majors)

- 120. Basic Design.** (3:3:3) F.S.Su. Home Study also. Darais, Marshall,
Raty, Southey, Wilson
Foundation course in theory and application of design.
- 121. Basic Drawing.** (3:6:0) F.S. Home Study also. Prerequisite: completion
of or concurrent registration in Art 120. Anderson, Breinholt,
Burnside, Darais, Fletcher, Johansen,
Marshall, Raty, Takasaki
The principles of art as applied to drawing. Work in perspective, representation, and individual interpretation and expression.
- 122. Basic Figure Drawing.** (3:6:0) F.S. Prerequisites: Art 120, 121.
Anderson, Darais, Gunn, Johansen, Magleby, Raty, Southey
Drawing from the model. Experience with the elements of graphic expression.

Area C. Graphic Core (art major requirements: B.A. 6 hours, BFA 8 hours)

- 227. Design in Oil Painting.** (2:4:0) F.S.Su. Andrus, Breinholt, Fletcher,
Magleby, Marshall, Southey, Turner
Oil colors as a design medium. Emphasis on expressive use of oil paints.
- 233. Design in Watercolor Painting.** (2:4:0) F.S.Su. Burnside, Fletcher,
Marshall, Raty
Survey and application of various techniques of watercolor painting.
- 239. Design in Layout and Lettering.** (2:4:0) F.S. Home Study also.
Raty, Whitaker
Basic skills in lettering and designing for commercial purposes.
- 250. Design in Printmaking.** (2:4:0) F.S.Su. Andrus, Weaver
Introduction to fine printmaking as a medium of design, including the relief, intaglio, planographic, and stencil processes.

Area D. Plastic Core (art major requirement: B.A. 4 hours, BFA 8 hours)

- 212. Contemporary Industrial Design.** (2:4:0) F.S. Stout
Survey of industrial design and its contribution to the modern environment. Classroom problems will stimulate awareness of aesthetic and functional standards required of all products.
- 256. Design in Sculpture.** (2:4:0) F.S.Su. Prerequisites: Art 120, 121, 122.
Anderson, Johansen
Introduction to the basic problems in three-dimensional design. Emphasis on the processes of clay construction in relationship to the human head and figure.
- 259. Design in Ceramics.** (2:4:0) F.S.Su. Weaver, Wilson
Familiarization with pottery materials and methods, emphasizing a design approach. The production of functional and expressive fired clay objects.
- 263. Design in Crafts.** (2:4:0) F.S.Su. Johansen, Weaver
Creative design in metal, wood, leather, mosaic, textile, and other media.

Area E. Art History (art major requirement: B.A. 7 hours, BFA 7 hours)

- 301. Art History and Appreciation.** (3:3:0) F.S. Home Study also. (G-HA)
Fletcher, Gunn, Mathews
A survey of the art of the Western world covering the various periods including the contemporary styles in the nineteenth and twentieth centuries.

- 302. Oriental Art.** (2:2:0) F. Burnside, Takasaki
A survey of the major periods and dynasties of the Orient from ancient to modern times.
- 308. American Art.** (2:2:0) F. (G-HA) Burnside, Fletcher
A survey of American painting, architecture, and sculpture from the seventeenth century to the present.
- 309. History of Architecture.** (2:2:0) F.S. Burnside, Mathews
A survey of the great monuments of architecture from the Egyptian period to the present time.
- 402. Classical Art.** (2:2:0) S. (G-HA) Gunn
History and appreciation of Greek and Roman art, with the consideration of the formative cultures.
- 403. Ancient and Primitive Art.** (2:2:0) F. (G-HA) Mathews
The history of ancient art including Egypt, Mesopotamia, and Greece. Primitive cultures include African Negro, Pacific Islands, American Indian, and Pre-Columbian.
- 405. Medieval Art.** (2:2:0) S.Su. (G-HA) Burnside
A study of the major medieval monuments in architecture, sculpture, and painting from the early Christian period through the Romanesque and Gothic periods.
- 406. Renaissance Art.** (2:2:0) S. Fletcher, Mathews
A study of the major artists, monuments, and influences of the Renaissance.
- 407. Nineteenth-Century European Art.** (2:2:0) F. Fletcher, Mathews
History and appreciation of nineteenth-century art in Europe and America.
- 408. Contemporary Art.** (2:2:0) Home Study also. S.Su. Fletcher, Mathews
The rise and progress of contemporary art in Europe and America.
- 414. Baroque Art.** (2:2:0) S.Su. Prerequisite: Art 301. Burnside
History and appreciation of baroque painting, sculpture, and architecture.
- 501. Philosophy of the Fine Arts.** (2:2:0) F.S.Su. Recommended: Phil. 213, and any of the art appreciation classes or Hum. 101.
Conducted primarily for fine arts majors; art, music, theatre, poetry, and dance. The art areas and their creation, style, form, mode, etc., will be discussed in lecture, but mainly seminar. The content will be organized around the particular art areas and their respective cultural settings, rather than on the historical records.

Area F. Design (art major requirement: BFA 2 hours)

- 310. Advanced Design.** (2:4:0) F.S. Prerequisites: Art 120, 121, 122, 227, 233, 239, 250, 256, 259, 263. Darais, Magleby
Emphasis on art structure as essential to self-expression. Study of significant examples from art history.
- 410R. Design Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 310. Darais, Magleby
Advanced design problems in various media.

Area G. Drawing (BFA requirement: 4 hours)

- 321. Interpretive Drawing.** (2:4:0) F.S. Prerequisites: Art 120, 121, 122. Darais, Johansen
Drawing as a graphic form of self-expression. Emphasis on the personal statement in response to various experiences and motifs. Examples from history included.

- 322. Advanced Figure Drawing.** (2:4:0) F.S.Su. Prerequisites: Art 120, 121, 122.
Andrus, Gunn, Johansen, Magleby
Advanced work in drawing the human figure, with emphasis on structure and individuality of expression.
- 421R. Drawing Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 321 or 322.
Johansen, Magleby
Development of individual expressive strengths.

Fields of Concentration

Area H. Ceramic and Crafts

- 359. Ceramics.** (2:4:0) F.S.Su. Weaver, Wilson
Basic methods of creating functional and expressive objects from clay. Forming processes from constructing and throwing through decorating and glazing to the final fired product.
- 362. Textile Crafts.** (2:4:0) F.S. Prerequisites: Art 120, 121, 122, 263. Weaver
Silk screen, block printing, stenciling, painting, and dyeing as media for textile design.
- 366. Metal Crafts and Jewelry Design.** (2:4:0) F.S.Su. (m) Prerequisites: Art 120, 121, 122, 263 (nonart majors, 263 only). Weaver
Creative design of copper, silver, aluminum, and other media used in etching, enameling, forming and modeling, soldering, silver casting, lapidary, etc.
- 459R. Ceramic Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 359. Weaver, Wilson
Studio experiences for advanced ceramics students. Emphasis on experimental and exploratory research concerned with clay bodies and glazes from local resources. Development of more personally expressive methods of producing pottery forms.
- 463R. Crafts Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 263. Weaver
Advanced exploratory problems in design involving craft materials of various kinds.

Area I. Commercial Design

- 341. Layout.** (3:3:0) F. Prerequisites: Art 120, 121, 122, 239. Whitaker
Creation of the idea and organization of visual elements for commercial design.
- 342. Illustration.** (2:3:0) S. Prerequisites: Art 120, 121, 122. Whitaker
Introduction to editorial and advertising illustration, exploration of tools and media, visualization of the idea, approaches to rendering.
- 343. Fashion Illustration.** (2:3:0) Home Study also. F. Prerequisites: Art 120, 121, 122. Gunn, Raty
Introduction to fashion illustration. The gesture proportion, and effective linear expression of the fashion figure; approaches to rendering apparel and the development of individual style.
- 344. Commercial Art Techniques.** (2:2:2) F. Prerequisite: Art 239. Whitaker
A survey of standard and experimental procedures utilized in the production of commercial art.
- ☐ **Communications 367. Portrait Photography.** (2:1:3)
- ☐ **Communications 368. Pictorial Photography.** (2:1:3)
- 444. Portfolio Preparation.** (2:2:2) F.S. Prerequisites: Art 122, 239, 341, 342. Gunn, Whitaker
An analysis of individual strengths and weaknesses. Specialization opportunities provided in various areas of commercial design and display. Preparation of portfolio emphasized.

- 449R. Commercial Art Studio.** (3:1:5 ea.) F.S.Su. Prerequisites: Art 341, 342.
Gunn, Whitaker

An extension of the individual's specific interests and needs as applied to practical problems in the field of commercial art.

Area J. Industrial Design

- 212. Contemporary Industrial Design.** (2:4:0) F.S. Stout

Survey of industrial design and its contribution to the modern environment. Classroom problems will stimulate awareness of aesthetic and functional standards required of all products.

- 312. Industrial Design.** (2:4:0) F.S. Prerequisites: Art 122, 212; Environ. Des. 201; Indus. Ed. 100, 129; Drafting 111. Stout

Planning and making of products. Emphasis on functional improvement and visual appeal.

- 412R. Advanced Industrial Design.** (3:4:2 ea.) F.S. Prerequisites: Art 233, 239, 256, 312; consent of instructor. Stout

Advanced work in all phases of design, with specialization in product, transportation, and environmental areas.

- 413R. Industrial Rendering Techniques.** (2:4:0 ea.) F.S. Prerequisites: Art 312, 412; Environ. Des. 330.

Basic product rendering and presentation techniques, using a variety of media. Emphasis upon development of individual style with a high level of professional competence.

- 425R. Terminal Project in Industrial Design.** (2:1:3 ea.) F.S. Prerequisites: Art 412, 418; Indus. Tech. 231; Indus. Ed. 460; senior standing; consent of instructor. Stout

Advanced one-year project with minimum instructor guidance. Will have relevance to present society problems. Final presentation will be written, visual, and three-dimensional.

Area K. Painting

- 327. Landscape and Still Life Painting.** (2:4:0) F.S. Prerequisites: Art 120, 121, 122, 227. Magleby, Turner

Oil painting from landscapes and still life objects, with emphasis on developing the individual expressive capacity of the student.

- 333. Watercolor Painting.** (2:4:0) F.S.Su. Prerequisites: Art 121, 122, 233.

Foster, Raty Turner
Development of basic skills in watercolor paintings from landscape and still life objects. Experience in the use of transparent watercolors emphasized.

- 421R. Drawing Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 321 or 322.
Development of individual expressive strengths.

- 427R. Oil Painting Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 327.

Magleby, Turner
Advanced work in painting.

- 433. Watercolor Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 333. Raty, Turner
Advanced work in watercolor theory and practice. Opportunities for projects in various aqueous media.

- 476R. Portrait and Figure Painting.** (3:Arr.:Arr. ea.) F.S.Su. Prerequisites: Art 120, 121, 122, 227. Andrus

Oil painting from the model, with emphasis on design and the development of an expressive style.

- 580. Mural Design.** (2:2:2) F. Prerequisites: Art 227, 310, 321 or 322. Magleby
Historical backgrounds, studio work in design, and execution of murals.

- 582. Mural Painting.** (2:1:3) F.S.Su. Prerequisite: Art 580. Magleby
Historical backgrounds, design, and execution of murals. (May be repeated for credit.)

Area L. Printmaking

- 350. Printmaking Workshop.** (2:4:0) F.Su. Prerequisites: Art 120, 121, 122, 250. Andrus
Relief and intaglio fine printmaking based on traditional and contemporary concepts, materials, and procedures.
- 352. Printmaking Workshop.** (2:4:0) S. Prerequisites: Art 121, 122, 250. Andrus
Lithography and silk screen based on traditional and contemporary concepts, materials, and procedures.
- 450R. Printmaking Studio.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 350 or 352. Andrus
Advanced specialization in significant sculptural form. Specialized investigations into media, deeper reading, and the development of a pre-professional style are expected.

Area M. Sculpture

- 356. Sculpture.** (2:4:0) F.S.Su. (m) Prerequisites: Art 120, 121, 122, 256. Anderson, Johansen
Intensified study in large dimension of the human figure. Emphasis on clay modeling, armature building, and plaster casting of clay models.
- 456R. Sculpture Studio: Carving.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 356. Anderson, Johansen
Methods of creating expressive sculptural forms, with emphasis on direct process of carving.
- 458R. Sculpture Studio: Metal.** (3:1:5 ea.) F.S.Su. Prerequisite: Art 356. Anderson, Johansen
Emphasis on the lost wax process and techniques of metal constructions. Repeat for advanced specialization in significant sculptural form.

Area N. Art Education for Secondary Schools

- 377. Basic Classroom Procedures.** (3:3:0) F. Prerequisite: Ed. 301. Allen, Breinholt, Tippetts
- 479. Secondary Student Teaching.** (8:0:0) F.S. Prerequisite: Art 377. Breinholt, Tippetts
- 568R. Art Education Studio.** (3:1:5 ea.) F.S.Su. Alder, Allen, Breinholt, Gunn, Raty, Weaver
Curricula and projects in art education.

Other Undergraduate courses

- 498. Readings (Honors).** (2:Arr.:Arr.) F.S.Su. Andrus
- 499. Readings.** (2:Arr.:Arr.) F.S.
Selections from the great literature in art.
- 595. Seminar.** (1:0:2) F.S.
Student and faculty analysis of curricula relationships, projection of student objectives, contemporary topics, and visits to current exhibits.

Graduate Courses

- 621. Advanced Drawing and Painting.** (2:2:2) F. Andrus, Magleby
- 622R. Advanced Figure Drawing.** (4:4:4 ea.) Prerequisite: Art. 621. Andrus

624. **Advanced Landscape Painting.** (2:2:2) F. Magleby, Turner
625. **Advanced Still Life Painting.** (2:2:2) S. **Turner**
- 626R. **Advanced Painting.** (4:4:4 ea.) Prerequisite: Art 621 or 624 or 625 or 674 or 676. Magleby
627. **Pictorial Composition.** (2:2:2) F. Darais, Magleby, Turner
- 629R. **Advanced Design.** (4:4:4 ea.) Prerequisite: Art 310. Darais, Magleby
633. **Advanced Watercolor Painting.** (2:2:2) F. Turner
- 635R. **Advanced Watercolor.** (4:4:4 ea.) Prerequisite: Art 633. Turner
639. **Advanced Layout.** (2:2:2) F. **Gunn**
642. **Advanced Illustration.** (2:2:2) S. **Gunn**
- 647R. **Advanced Commercial Art.** (4:4:4 ea.) Prerequisite: Art 639. Gunn
650. **Advanced Relief and Intaglio Printmaking.** (2:2:2) F. Andrus
652. **Serigraphy and Color Lithography.** (2:2:2) S. Andrus
- 653R. **Advanced Printmaking.** (4:4:4 ea.) Prerequisite: Art 650. Andrus
656. **Advanced Sculpture.** (2:2:2) F. Johansen
- 658R. **Advanced Sculpture.** (4:4:4 ea.) Prerequisite: Art 656. Johansen
664. **Advanced Ceramics.** (2:2:2) F.S. Wilson
- 665R. **Advanced Ceramics.** (4:4:4 ea.) Prerequisite: Art 664. Wilson
666. **Advanced Metal and Jewelry Design.** (2:2:2) F.S. Weaver
- 667R. **Advanced Crafts.** (4:4:4 ea.) Prerequisite: Art 666. Weaver
668. **Art Education.** (2:2:0) S. Breinholt, Gunn
669. **Advanced Arts and Crafts for Elementary Teachers.** (2:2:1) Prerequisite: consent of instructor. Tippetts
671. **Survey of Recent Studies in Art Education.** (2:2:0) Breinholt, Gunn
674. **Advanced Portrait Painting.** (2:2:2) F. Andrus
- 676R. **Advanced Portrait and Figure Painting.** (4:Arr.:Arr. ea.) Prerequisite: Art 674. Andrus
680. **Advanced Mural Design and Painting.** (2:2:2) F. Darais
- 682R. **Advanced Mural Design and Painting.** (4:4:4 ea.) Prerequisite: Art 580 or 680. Darais
690. **Color.** (2:2:0) F. Andrus
692. **Color.** (2:2:0) S. Prerequisite: Art 690. Andrus
695. **Seminar.** (1:1:0) F.S.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)

Asian Studies

Professors: Hyer, Palmer (coordinator).
Associate Professors: Farnsworth, Hillam.
Assistant Professors: Britsch (associate coordinator), Horiuchi, Takasaki, Williams.
Instructor: Montgomery.



Asian Studies

The Asian Studies Program is an interdisciplinary program which provides for two majors or a major and minor combination leading to the B.A. degree.

In addition to the undergraduate majors, the Asian Studies Program also includes work leading to the M.A. degree.

The program is designed to prepare students for careers and advanced study in the specialized field of Asia not provided by a major in one department. In the program, students will acquire a working competency in either the Chinese, Japanese, or Korean language, a broad knowledge of civilization in Asia, and a more specialized knowledge in an academic discipline. The program is intended for those students desiring to make an intensive study of the cultural history, modern development, and problems of Asia. It applies the techniques of and acquaints students with the contributions of the humanities and the social sciences. The major as outlined proves useful to students contemplating careers in the academic areas, private industry, or government service. The import-export field and international services are particularly interested in persons who have a strong background in Asian studies. Students may enter the program only with the approval of the committee on Asian studies and shall register each semester thereafter under its direction.

Graduate Studies

A concurrent M.A. degree program is offered, as well as a graduate minor in Asian studies. For information, see the Graduate School Catalog.

Requirements for a Major

Asian studies majors are required to fill a concurrent (double) major in a regular discipline.

- | | |
|--|---------|
| 1. Core courses dealing directly with Asia (starred in the list below) from three fields outside the regular major | 14 hrs. |
| 2. Elective courses dealing more generally with Asia (any in the list below) from fields outside the regular major | 3 hrs. |
| 3. Language Requirement | 20 hrs. |
| A. Nonlanguage majors | |
| Chinese, Japanese or Korean language | 20 hrs. |
| (This includes 12 hours applied to the general education requirements of the University.) | |
| B. East Asian language majors. The 20 hours are to be divided as follows: | |
| (1) 101, 102 from major language | 8 hrs. |
| (2) Additional East Asian language or courses from the list below | 12 hrs. |
| | 20 hrs. |
| 4. Senior Seminar in Asian Studies | 3 hrs. |

Requirements for a Minor

A total of 14 hours (in addition to a regular major and 12 hours of an Asian language, equivalent to the bachelor's degree requirement) divided as follows:

- | | |
|---|--------|
| 1. Core courses | 8 hrs. |
| 2. Elective courses (including three hours of language study) | 6 hrs. |

Anthropology**Hours**

- | | |
|--|---|
| 211. Cultures of the World | 3 |
| *350. Peoples of South and East Asia | 3 |

Art

- | | |
|--------------------------|---|
| *302. Oriental Art | 2 |
|--------------------------|---|

Geography

- | | |
|--|---|
| 120. Geography and World Affairs | 3 |
| *470. Asia | 3 |
| *571. Problems of Asia | 2 |

History

- | | |
|---|---|
| *340. Premodern Asia | 3 |
| *341. Modern Asia | 3 |
| *342. Korea | 3 |
| *343. Formative Period of Chinese Civilization | 3 |
| *344. Modern China | 3 |
| *345. Formative Period of Japanese Civilization | 3 |
| *346. Modern Japan | 3 |
| *347. India | 3 |
| *349. Central Asia | 3 |
| *440. Communist China | 3 |

Language**Chinese (Mandarin):**

- | | |
|---|---------|
| 101, 102. First-Year Chinese | 4 ea. |
| 201. Second-Year Chinese | 4 |
| 211. Second-Year Conversation | 2 |
| 301. Second-Year Chinese (Continued) | 4 |
| 311. Third-Year Conversation | 2 |
| 321, 322. Selected Readings and Composition | 3 ea. |
| 421, 422. Readings in Chinese Social Sciences | 3 ea. |
| *440. Historical Survey of Chinese Literature | 3 |
| 441, 442. Introduction to Classical Chinese | 4 ea. |
| 443, 444. Modern Chinese Literature | 3 ea. |
| 445. Chinese Civilization | 3 |
| 490R. Individual Study in Chinese | 1-3 ea. |
| 495. Senior Seminar for Majors | 2 |

Japanese:

- | | |
|--|---------|
| 101, 102. First-Year Japanese | 4 ea. |
| 201. Intermediate Reading and Conversation | 4 |
| 211. Second-Year Conversation | 2 |
| 301. Introduction to Japanese Literature | 4 |
| 311. Third-Year Conversation | 2 |
| 321. Third-Year Grammar and Composition | 3 |
| 322. Third-Year Grammar and Composition | 3 |
| 443, 444. Modern Japanese Literature | 3 ea. |
| 490R. Individual Study in Japanese | 1-3 ea. |

Korean:

- | | |
|---|-------|
| 101, 102. First-Year Korean | 4 ea. |
| 201. Intermediate Korean Reading and Conversation | 4 |
| 301. Introduction to Korean Literature | 4 |

Political Science

150.	Introduction to Comparative Political Systems	3
170.	Introduction to International Politics	3
359.	Modernization and Political Change	3
*551.	Political System of China	3
*552.	Political System of Japan	3
*558.	Modernization and Political Change in Asia	3
*580.	International Relations of Asia	3

Religion

*453A.	Mormonism and the World's Religions	2
*555.	Comparative World Religions (Hinduism, Jainism, Sikhism, Buddhism)	2
*556.	Comparative World Religions (Taoism, Confucianism, Shintoism, Islam)	2
*559.	The Church in Asia	2

Economics

241.	Comparative Economic Systems	3
430.	Economic Development	3
*535.	Economic Problems of Asia	3

Courses

101. Introduction to Asia. (3:3:0) F.S.

A topical introduction to Asian culture and civilization, approached from the standpoint of geography, history, politics and government, religion and thought, anthropology, art, and literature.

499. Senior Seminar in Asian Studies. (3:3:0) F.S.

Sources, materials, and methods of research and writing, including critical analysis of a research project. Required of all Asian studies majors in the senior year.

501. Intensive Introduction to Asian Studies for Teachers. (3:3:0) Su.

Readings, lectures, and individual study designed to assist public school teachers to integrate Asian studies into the curriculum of social studies, world history, and geography. To 1600 A.D.

502. Intensive Introduction to Asian Studies for Teachers. (3:3:0) Su.

Readings, lectures, and individual study designed to assist public school teachers to integrate Asian studies into the curriculum of social studies, world history, and geography. Since 1600 A.D.

Biological and Agricultural Education



Professors: Allen (coordinator, 301 WLB),
Walker (Agricultural Education, 275 WLB).

Interdisciplinary Work in the College of Biological and Agricultural Sciences

Students who wish to prepare for teaching a biological or agricultural science in secondary school should follow the curriculum outlined under Education. In addition, they should meet the requirements outlined under the General Education Program and also the requirements for teacher certification as outlined under the College of Education.

Courses

105. **Agricultural Science and Industry.** (3:3:0) F.S. (G-BS)
Plants and animals as agricultural products—their husbandry, distribution, and utilization.
- 113H. **Modern Biological Science.** (4:4:2) F.S. (G-BS) Prerequisites: GEH 111H, 112H, or consent of instructor.
Relevance of biology to principles of contemporary society. For Honors students only.
201. **Introduction to Biology.** (4:5:0) F.S. (G-BS) Prerequisites: Chem. 105; and concurrent registration in Chem. 106.
Introduction to basic principles of biology. Offered for majors and minors in biology.
351. **Natural History for Elementary Teachers.** (3:2:2) F.S. (G-BS) May not be used for credit towards a degree in a science department.
Allred, Pritchett
377. **Secondary Teaching Procedures in Biology.** (3:3:1) F.S. Prerequisite: Ed. 301. Leichty
For course description see Ed. 377. Required of biology teachers.
479. **Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisite. Bio. Agr. Ed. 377. Leichty
For course description see Ed. 479. Required of biology teachers.
- **Education 644. Directed Teaching in College.** (2:4:0) F.S.Su. Smith
For course description see Ed. 644. Required for junior college credentials in some states.

Botany and Range Science

Professors: Christensen, Harrison, Moore, Murdock, Stutz, Welsh.

Associate Professors: Andersen, Hess, Stocks (chairman, 210 B), Vallentine, Weber, Whitton.

Assistant Professor: Tidwell.

Instructors: Liechty, Van Cott.

Collaborators: Neil C. Frischknecht, Ralph C. Holmgren, Odell Julander.



The courses offered in the Botany and Range Science Department provide professional training for rewarding careers in the plant sciences and present an avenue to everyone for enlarging his understanding of life and for appreciating the beauty in the world in which we live.

Career opportunities are available in governmental services, in industry, in secondary schools, colleges, and universities, and in research institutions. Students trained in botany and range science are employed as teachers, conservationists, range managers, geneticists, plant breeders, plant physiologists, mycologists, plant quarantine inspectors, taxonomists, museum curators, park naturalists, and park rangers.

Three professional undergraduate curricula in the department are offered. One in botany, one for prospective biology teachers and one for range science majors. A two-year preforestry program is also available.

BOTANY

Required and Recommended Courses for Botany Majors

Required Courses:

Bot. 101, 110, 225, 321, 331, 335, 376, 440, 450, 491R

Math. 105 and 106 or 111

Chem. 105, 106, or 101, 151

Students majoring in botany are required also to gain some field experience in botany. This requirement may be satisfied by taking Bot. 455, or by attendance at an approved summer biological station, or by appropriate summer field work.

Recommended Supporting Courses:

Agron. 282; Micro. 321, 322; Chem. 223, 351, 353, 384; Geog. 401; Geol. 111, 112; Math. 112, 113; Stat. 221; Zool. 202, 203, 261; Bot. 205, 378, 460.

Suggested Curriculum for Botany Majors for the First Two Years. (Junior and senior year curriculum to be worked out with approval of adviser.)

Freshman Year

Fall		Spring	
Bot. 101	3	Bot. 110	3
Math. 105	3	Math. 106	3
Engl. 111	3	Engl. 112	3
Relig.	2	Relig.	2
Electives	5	Electives	5
Total Hours		Total Hours	
16		16	

Sophomore Year

Bot. 225	3
Chem. 105	4
Relig.	2
Electives	8
Total Hours	17

Bot. 321	3
Chem. 106	4
Relig.	2
Micro. 321, 322	4
Electives	5

Total Hours 18

Major and Minor for Secondary Teachers

Prospective biology teachers must complete either a botany major and a zoology minor or a zoology major and a botany or chemistry minor. Bio. Agr. Ed. 377 and 479 are required for certification of all prospective biology teachers.

Teaching Major (28 or 29 hours)

Bot. 101, 110, 205, 321, 331, 376, 440, 450, plus one of the following:
Bot. 225, 335, 455, 460.

Required Supporting Courses:

Micro. 321; Math. 105, 106, or 111; Chem. 105, 106, or 101, 151.

Recommended Supporting Courses:

Agron. 282; Geog. 401; Geol. 111, 112; Chem. 151, or 351 and 353;
Math. 112, 113; Stat. 221.

Teaching Minor (17 hours)

Bot. 105, 110, 440, and seven hours from the following courses: Bot. 205, 225, 321, 450, 460.

Preforestry

Students may prepare themselves for further training in forestry by taking the preforestry curriculum during their first two years of college work. The preforestry program at Brigham Young University is under the supervision of the Department of Botany and Range Science. During the freshman and sophomore years students in the preforestry program are registered for the basic science courses required for training in forestry and general education courses. Upon completion of this program, students may enroll in a professional forestry school for their major work in forestry.

Courses**101. Plant Biology. (3:2:2) F.S.Su. (G-BS m)**

The study of life, using plants to illustrate the processes and structure of living organisms.

105. Plant Kingdom. (3:2:2) F.S.Su. (G-BS m)

A survey of the plant kingdom, including the morphology of representative species.

110. Plant Classification. (3:2:3) S.Su. (G-BS m) Home Study also.

Harrison, Welsh

General principles of taxonomy and use of manuals, with emphasis on classification of temperate flora.

161. General Forestry. (3:3:0) F. (Field trip to be arranged.)

Julander

General principles of forestry and forest conservation. The relationship of forests to human affairs.

205. Field Botany. (2:1:3) F.S.Su. (G-BS m)

A study of the common trees and shrubs and their uses.

225. General Cytology. (3:2:3) F.S. (m)

Moore, Whitton

The organization and function of cells.

- 276. Heredity.** (3:3:0) F.S.Su. Home Study also. (G-BS m) Prerequisite: Bot. 101 or 105, or Zool. 105, or equivalent.
Principles of inheritance for nonscience majors. Equivalent to Zool. 276. Cannot be taken for credit by students who have taken Zool. 276 or 376, or Bot. 376.
- 301. Introductory Botany.** (4:3:3) F.S. Prerequisites: nine semester hours in biology, including a course in genetics.
An advanced introductory course in botany at the junior level. Designed primarily for premedical and predental students.
- 321. Plant Anatomy.** (3:1:5) F.S. (m) Prerequisite: Bot. 101 or Zool. 105.
Christensen, Tidwell
A study of plant structures.
- 331. Morphology of Green Plants.** (5:3:6) S. (m) Prerequisites: Bot. 101 or Zool. 105.
Tidwell
Basic structures, relationships, and life histories of representatives of the major plant groups, exclusive of the fungi.
- 335. Mycology.** (3:1:6) F. (m) Prerequisite: Bot. 101 or Zool. 105. Weber
A study of fungi.
- 376. General Genetics.** (3:3:0) F.S. (G-BS m) Prerequisites: introductory course in college biology and one-year course in college chemistry.
Andersen, Stutz, Whitton
Equivalent to Zool. 376; may be used for either botany or zoology credit. Cannot be taken for credit by students who have taken Zool. 276, 376, or Bot. 276.
- **Biological and Agricultural Education 377. Secondary Teaching Procedures in Biology.** (3:3:1) F.S. Prerequisite: Ed. 301. Liechty
- 378. Genetics Laboratory.** (1:0:3) F.S. (m) Prerequisite: completion of or concurrent registration in Bot. 376 or Zool. 376.
Anderson, Whitton
Laboratory and field exercises in genetics.
- 440. Plant Physiology.** (4:3:3) S. (m) Prerequisites: Bot. 101 and college chemistry.
Harrison, Stocks
Water relations, mineral nutrition, synthesis of foods, digestion, respiration, and growth and reproduction of plants.
- 450. Plant Ecology.** (3:2:3) F.S. (m) (Field trips to be arranged.) Prerequisite: Bot. 101 or Zool. 105 or equivalent; Bot. 110. Christensen, Murdock
Relation of plants to their environment, their adaptations to factors of soil and climate, their influences on each other, and their relationships to other organisms.
- 455. Field Ecology.** (2:1:Arr.) S.Su. (m) (Includes one field trip of about one week's duration.) Prerequisite: consent of instructor. Christensen, Murdock
Ecological field work in forests and rangelands.
- 460. Conservation of Natural Resources.** (2:2:0) F.S.Su. (Field trip to be arranged.) (G-BS m) Home Study also.
Christensen, Julander, Moore, Murdock
Need for and means of providing conservation of renewable natural resources.
- 469. Forest Management.** (3:3:0) S. (Field trips to be arranged.) Julander
Management of forest resources for multiple use.
- **Biological and Agricultural Education 479. Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisite: Bio. Agr. Ed. 377. Liechty
- 480. Plant Pathology.** (3:2:3) F. (m) Prerequisite: Bot. 101 or Zool. 105.
Hess, Weber
Important plant diseases, their identification, causes, and methods of control.

- 491R. Seminar.** (1:1:0 ea.) F. (m)
Presentation and discussion of selected topics.
- 498R. Special Problems.** (1-3:0:3-9 ea.) F.S.Su.
- 501. Histological Technique.** (2:0:6) F. (Offered 1971-72 and alternate years)
Prerequisite: Bot. 101 or Zool. 105. Moore
Techniques of preparing plant tissues for microscopic examination.
- 510. Advanced Taxonomy.** (3:2:3) (One three-day field trip to be arranged.)
S.Su. Prerequisites: Bot. 110, 276, or consent of instructor. Welsh
- 515. Agrostology: Taxonomy and Ecology of Grasses.** (2:1:5) F. (Offered 1970-71 and alternate years) Prerequisite: Bot. 110. Harrison
Classification and ecology of grasses. Important forage species are emphasized.
- 522. Biological Instrumentation.** (3:1:6) F (m) (Offered 1970 and alternate years) Prerequisite: graduate status or permission of instructor.
Theory and application of research instruments to biological problems.
- 525. Ultrastructural Interpretation.** (3:3:0) F. (m) Prerequisite: Bot. 225, or Zool. 465 or 466, or Chem. 581. Moore, Whitton
Study of ultrastructure and morphology of the cell.
- 535. Advanced Mycology.** (4:2:6) S.Su. (Offered 1971-72 and alternate years)
Prerequisite: Bot. 335 or equivalent. Weber
A detailed study of taxonomy and morphology of special groups.
- 539. Paleobotany.** (3:2:3) S. (Offered 1971-72 and alternate years) Prerequisites: Bot. 101 or 105; Geol. 103. Tidwell
- 550. Plant Geography.** (3:2:3) F. (Offered 1971-72 and alternate years) Welsh
The distribution of plant species and communities in the light of present and past climates.
- 557. Experimental Ecology.** (2:0:6) S. (Offered 1970-71 and alternate years)
Investigations on the phenology of selected species. Murdock
- 610. Botanical Terminology and Nomenclature.** (2:2:0) F.Su. (Offered 1970-71 and alternate years) Prerequisite: consent of instructor. Welsh
A detailed study of botanical terminology, including the contributions of Latin and Greek words, their gender, number, and case.
- 620. Cell Biology.** (3:2:3) F. (m) (Offered 1971-72 and alternate years) Prerequisites: Bot. 525; Chem. 581. Andersen
A study of structure and physiology of cell membranes and organelles.
- 621. Electron Microscopy.** (2:2:0) S. Hess
Theoretical and practical aspects of electron microscopy of biological material, including electron diffraction, tissue preparation, replication, shadow casting of specimens, and freeze-etch procedures as they apply to various sciences.
- 622. Electron Microscopy Laboratory.** (1:0:3) S. Prerequisites: consent of instructor and completion of or concurrent registration in Bot. 621. Hess
Laboratory to accompany Bot. 621. Essentially individual instruction.
- 630. Angiosperm Morphology.** (4:3:3) F. (Offered 1970-71 and alternate years) Prerequisite: familiarity with taxonomy, anatomy, and physiology or biochemistry. Tidwell
- 634. Morphogenesis.** (3:2:3) F. (Offered 1971-72 and alternate years) Prerequisite: familiarity with taxonomy, anatomy, and physiology or biochemistry. Moore
The development of form in organisms, with emphasis on plants.

638. **Advanced Mycology II.** (2:1:3) F.Su. (Offered 1970-71 and alternate years) Prerequisite: a laboratory course in microbiology, botany, or zoology. Weber
Advanced studies of fungi, with emphasis on genetics.
641. **Physiology of Fungi and Algae.** (4:3:3) F. (Offered 1971-72 and alternate years) Prerequisites: Bot. 335, 440. Weber, Stocks
655. **Field Ecology.** (2:1:Arr.) S.Su. (Extended field trip.) Prerequisite: consent of instructor. Christensen, Murdock
Ecological field work in forests and rangelands.
676. **Cytogenetics.** (3:2:3) F. (Offered 1970-71 and alternate years) Prerequisite: genetics and cytology. Andersen, Stutz, Whitton
678. **Organic Evolution.** (3:3:0) S. Prerequisite: genetics or consent of instructor. Stutz
680. **Advanced Plant Pathology.** (3:2:3) F. (Offered 1971-72 and alternate years) Prerequisite: Bot. 480. Hess, Weber
A detailed study of plant diseases and their causes, with emphasis on viruses, fungal pathogens, or nematodes.
- 691R. **Graduate Seminar.** (1:1:0 ea.) F.S.
- 698R. **Special Problems.** (1-3:0:3-9 ea.) F.S.Su.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
740. **Advanced Plant Physiology I.** (3:2:3) S. (Offered 1971-72 and alternate years) Prerequisites: Bot. 440; Chem. 351. Harrison, Stocks
741. **Advanced Plant Physiology II.** (3-4:2-3:3) S. (Offered 1970-71 and alternate years) Prerequisites: Bot. 440; Chem. 351. Stocks
742. **Plant Nutrition and Growth.** (3:2:3) F. (Offered 1970-71 and alternate years) Prerequisite: Bot. 440. Harrison
750. **Grassland and Desert Ecology.** (3:3:0) F. (Offered 1970-71 and alternate years) Prerequisite: consent of instructor. Christensen, Murdock
752. **Forest Ecology.** (3:3:0) F. (Offered 1971-72 and alternate years) Prerequisite: consent of instructor. Christensen, Murdock
760. **Conservation of Natural Resources.** (3:2:3) S. (Offered 1970-71 and alternate years) Prerequisite: consent of instructor. Christensen, Julander, Murdock, Moore, Vallentine
776. **Population Genetics.** (3:3:0) S. (Offered 1970-71 and alternate years) Prerequisite: genetics. Stutz
799. **Doctoral Dissertation.** (Arr.) F.S.Su.

RANGE SCIENCE

Two options are available to students who desire to work for a B.S. degree in range science. Both options meet Civil Service requirements for the position of range conservationist. Type of employment wanted and personal preferences should be considered in selecting the option in range science to be followed:

- A. **Range Resources Option**—designed for students desiring careers in the Soil Conservation Service; federal land management agencies such as the Forest Service, Bureau of Sports Fisheries and Wildlife, Bureau of Land Management, or Bureau of Indian Affairs; or state departments of fish and game, lands, or natural resources.
- B. **Agribusiness Option**—designed for students desiring careers in ranch management, banks and other financial institutions, chemical, feed, or seed companies, or livestock organizations, or as consultants, agricultural teachers, or Soil Conservation Service technicians.

Students desiring employment as range researchers, extension agents or specialists, or college teachers in range science should consider working for advanced degrees after completing a B.S. degree in range science. Counsel should be sought from advisers in selecting electives that will be most helpful in preparing students for graduate work.

An M.S. degree in range science is offered at BYU. A Ph.D. degree in botany with emphasis in ecology and range science may also be earned. The Graduate School Catalog should be consulted for details concerning graduate study.

Course Requirements. Of the 128 semester hours of credit required for a B.S. degree, the range science curriculum requires 118 or 119 hours of credit be obtained by taking specific courses or group fillers. The remaining hours should be selected from suggested electives that will strengthen the student in areas of special interests or needs.

RANGE SCIENCE CURRICULUM (B.S.)

Department	Range Resources Option	Agribusiness Option
A. Required Courses		
Range Sci.	365, 462, 465, 466, 491, 561	365, 462, 466, 491; Agr. Econ. 520 (or Range Sci. 465)
Acctg.		201, 202
Agr. Econ.	112, 350 (or 325)	112, 325, 409 (or 410)
Agron.	282, 303	282
An. Sci.	207, 335 (or 340)	207, 335 (or 340), 507
Bot.	101 (or Bio. Agr. Ed. 201), 376, 440, 450, 455*, 469	101 (or Bio. Agr. Ed. 201), 110, 376, 440, 450
Bus. Mgt.		321, 301
Chem.	105, 106, 151	101 (or 105), 151
Econ.		111
Math.	105, 106 (or 111)	105 (or 108 or 111)
Stat.	221	221
Zool.	Two courses from 547, 203, 331, 451	
General education requirements (added)		
	37 hours	35 hours
Total Hours	119	120
B. Suggested electives		
Range Sci.	498; Agr. Econ. 520	465, 498, 561
An. Sci.	340 (or 335), 507	153, 311, 312, 340 (or 335)
Bot.	515	515
Agr. Econ.	350 (or 325)	326, 350, 360, 425
Agron.	305, 511	151, 302, 303, 305, 455
Chem.	384, 385	384, 385
Geog.	211	211
Geol.	111	
Bus. Mgt.	321	

*Approved field experience may be substituted for Bot. 455.

RANGE SCIENCE MINOR

Required Courses		Three hours from the following:	
Range Sci. 365	3 hours	Range Sci. 465	3 hours
Range Sci. 462	3 hours	Range Sci. 491	1 hour
Range Sci. 466	3 hours	Range Sci. 561	3 hours
Agron. 282	4 hours	Bot. 455	2 hours
Bot. 450	3 hours	Agr. Econ. 520	3 hours

Total Required—19 hours

Suggested Course Schedule. The following course schedule is suggested for range science majors during their freshman and sophomore years.

Freshman Year	Range Resources		Agribusiness	
	F	S	F	S
Bot. 101	3		3	
Bot. 110		3		3
Chem. 101			4	
Chem. 105	4			
Chem. 106		4		
Math. 105	3		3	
Math. 106		3		
Econ. 111				3
Engl. 111	3		3	
Engl. 112		3		3
Hist. 170				3
Forum and dev. assy.	1	1	1	1
Health 130				2
Relig.	2	2	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Total hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	17 $\frac{1}{2}$

Sophomore Year

Range Sci. 365	3		3	
Agr. Econ. 112	3		3	
Agron. 282		4		4
An. Sci. 207		3		3
Acctg. 201			3	
Acctg. 202				3
Chem. 151	5		5	
Hist. 170	3			
Forum and dev. assy.	1	1	1	1
Relig.	2	2	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Health 130		2		
Electives		6		5
Total hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	17 $\frac{1}{2}$	18 $\frac{1}{2}$

Courses

365. Range Forage. (3:1:6) F. (m) Prerequisite: Bot. 110.

Murdock, Vallentine

Characteristics, distribution, and value of the more important forage plants of the western range.

462. Range Management. (3:2:3) S. (m) Prerequisite: Bot. 450.

Christensen, Murdock, Vallentine

Problems associated with the management, grazing, and maintenance of rangelands.

465. Management of Habitat for Wildlife. (3:2:3) F. (m) Prerequisite: Bot. 101 or equivalent. Recommended: Bot. 450; Zool. 451, 547.

Julander, Liechty

General principles and problems associated with and the development of new concepts and attitudes pertaining to the management of habitat for wildlife.

466. Range Revegetation and Improvements. (3:2:3) F. (m) Prerequisite: Bot. 450.

Julander, Murdock, Vallentine

Reseeding, control of undesirable plants and fertilization, and the use of fencing, stockwater developments, and other facilities on rangelands.

- 491R. Seminar.** (1:1:0 ea.) S. (m)
Presentation and discussion of current research in range ecology and range science.
- 498R. Special Problems.** (1-3:0:3-9 ea.) F.S.Su.
Management of ranch resources.
- **Agricultural Economics 520. Management of Ranch Resources.** (3:2:2) F. Pre-requisites: Range Sci. 365; An. Sci. 335 or 340; Agr. Econ. 325 or 350.
- 561. Watershed Management.** (3:2:3) S. (m) Murdock
- 691R. Graduate Seminar.** (1:1:0 ea.) F.S.
- 698R. Special Problems.** (1-3:0:3-9 ea.) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.



Instructor and students on plant ecology field trip

Business Education

Professors: Bell, D. Peterson.

Associate Professors: Nelson (chairman, 351 JKB), B. Petersen, Polson, G. Smith, Stoddard, Waters.

Assistant Professors: Ashby, Boyer, DeMille, Perry, H. Smith, Warner.

Instructors: Downey, Hartman, Howard, Tingey.



The Business Education Department provides, within the framework of the College of Business, the preparation needed by young men and women for responsible positions in business and professional business teaching. The four-year programs described below include basic preparation in general education and the college "core" of business fundamentals. A maximum of five hours of "D" credit in required business education courses (or approved substitutes) will be accepted toward satisfying the requirements of any of the majors in this department.

Division of Business Fundamentals

As indicated in the College of Business section, all students desiring to major in the Business Education Department will register in the Division of Business Fundamentals until they have completed the College of Business lower-division core course requirements applicable to their major and have completed at least 62 semester hours of approved university credit.

Upon completion of these requirements, students who have earned a 2.25 grade-point average in the above-mentioned core courses will be permitted to transfer to the major in which they intend to specialize and graduate.

Office Administration

The office administration major is intended for students interested in the fields of administrative services, office supervision, and personnel management.

Preparation is provided for positions in middle management in the expanding profession of office administration. Training in organization, data processing and analysis, systems and procedures analysis, communications, and supervision of personnel are emphasized. An opportunity for on-the-job training, coupled with class work, may be included to provide a well-rounded program designed to meet employment requirements.

Executive Assistant

The executive assistant major is structured to prepare students to assume responsible business secretarial positions. The program provides a background in general education, business administration, and secretarial procedures. To work cooperatively and understandingly with the business executive is a basic tenet in the preparation of young men and women desiring to become executive assistants.

Business Teacher

The College of Business cooperates with the College of Education in preparing students to teach business courses in junior and senior high schools. Students complete a composite major with an emphasis in one of the following areas: distributive education, secretarial-office administration, or socio-business. The major purpose of collegiate business teacher education is to prepare students to

teach; however, the course work provides students with knowledge and skills that can also be applied to other professional objectives.

Students selecting a business teacher composite major will complete the University general education requirements, 23 hours in professional education courses prescribed by the College of Education for secondary school certification, and 51 hours in College of Business courses. Certification requirements must be completed before the student is recommended for graduation.

Graduate Business Teacher Education

A complete program of graduate courses in business teacher education is provided for teachers desiring a master's degree, or for experienced teachers desiring to fulfill state recertification requirements. Consult the Graduate Catalog for further details.

Business Technology

(Two-year program)

See the College of Industrial and Technical Education section of this catalog.

Office Administration Major

I. College of Business Core Requirements:

Math. 108* or equivalent	4
Acctg. 201* and 202*	6
Acctg. 232* or Math. 109*	3 or 4
Acctg. 342	3
Bus. Mgt. 241	3
Bus. Mgt. 301	3
Econ. 111* and 112*	6
Econ. 301 or 302	3
Stat. 221*	3

*Bus. Fundamentals Requirement.

II. Office Administration Requirements:

Bus. Ed. 220	3
Bus. Ed. 305	3
Bus. Ed. 320	3
Bus. Ed. 480	2
Bus. Ed. 485	1
Bus. Mgt. 321	3
Comput. Sci. 201	2
Comput. Sci. 230	3

Five or six hours of elective business courses selected in consultation with and approved by the student's major adviser (a minimum of 3 hours must be in departments other than Business Education). The following are some recommended elective courses:

Bus. Ed. 370	3
Bus. Ed. 470R**	1-8

**Approval of department chairman required.

Acctg. 301	3
Acctg. 302	3
Acctg. 356	3
Acctg. 455	3
Comput. Sci. 331	3
Comput. Sci. 332	3
Comput. Sci. 333	3
Comput. Sci. 431	3
Comput. Sci. 451	3

Executive Assistant Major

I. College of Business Core Requirements:

Math. 108 or equivalent*	4
Acctg. 201* and 202*	6
Acctg. 342	3
Bus. Mgt. 241	3
Bus. Mgt. 301 or Econ. 353	3
Econ. 111* and 112*	6
Econ. 301, 302, or 274	3
Stat. 221*	3

*Bus. Fundamentals Requirement.

II. Executive Assistant Requirements:

Bus. Ed. 113 or equivalent	3
Bus. Ed. 203	2
Bus. Ed. 204	2
Bus. Ed. 206	2
Bus. Ed. 220	3
Bus. Ed. 305	3
Bus. Ed. 311	3
Bus. Ed. 320	3
Bus. Ed. 370	3
Bus. Ed. 411	3
Bus. Ed. 475	3
Bus. Ed. 485	1
Bus. Mgt. 380 or 381	1

Business Teacher Majors**I. College of Business Core Requirements:**

To qualify for a teaching major, students in the business teaching program must complete Acctg. 201 and 202, and Econ. 101 or 111.

II. Professional Educational Requirements:

(See "Preparation of Secondary School Teachers" in the Education section for required professional education courses leading to secondary school certification.) Certification requirements must be completed to be recommended for graduation.

III. Distributive Education Composite Major Requirements:

Acctg. 201*, 202*	6
Econ. 101* or 111*	3
Bus. Ed. 310	2
Bus. Ed. 315	2
Bus. Ed. 220	3
Bus. Ed. 320	3
Bus. Ed. 489	2
Bus. Mgt. 241	3
Bus. Mgt. 256	3
Bus. Mgt. 321	3
Bus. Mgt. 455	3

*Bus. Fundamentals Requirement.

Additional hours of elective business courses selected in consultation and with approval of student's major adviser to make a total of 51 hours. Some recommended elective courses are

Acctg. 301	3
Acctg. 302	3
Acctg. 342	3
Acctg. 356	3
Bus. Ed. 203	2
Bus. Ed. 206	2
Bus. Ed. 377A,B,C,D,E,F	1-3
Bus. Ed. 470	1-8
Bus. Mgt. 200	2
Bus. Mgt. 380	1
Bus. Mgt. 381	1
Bus. Mgt. 499	3
Comput. Sci. 201	2
Econ. 112	3

IV. Secretarial-Office Administration Composite Major Requirements:

Acctg. 201*	3
Acctg. 202*	3
Econ. 101* or 111*	3
Bus. Ed. 113	3
Bus. Ed. 203	2
Bus. Ed. 204	2
Bus. Ed. 206	2
Bus. Ed. 220	3

Bus. Ed. 305	3
Bus. Ed. 311	3
Bus. Ed. 320	3
Bus. Ed. 370	3
Bus. Ed. 489	2

*Bus. Fundamentals Requirement.

Additional hours of elective business courses selected in consultation and with approval of student's major adviser to make a total of 51 hours. Some recommended elective courses are

Acctg. 342	3
Bus. Ed. 112	3
Bus. Ed. 377A,B,C,D,E,F	1-3
Bus. Ed. 411	3
Bus. Ed. 475	3
Bus. Ed. 485	1
Bus. Mgt. 200	2
Bus. Mgt. 241	3
Bus. Mgt. 321	3
Bus. Mgt. 380, 381	2
Comput. Sci. 201	2
Comput. Sci. 230	3
Comput. Sci. 331	3
Econ. 112	3
Econ. 241	3
Econ. 274	3
Geog. 231	3

V. Socio-Business Composite Major Requirements:

Acctg. 201*	3
Acctg. 202*	3
Acctg. 356	3
Econ. 101* or 111*	3
Econ. 112*	3
Bus. Ed. 203	2
Bus. Ed. 220	3
Bus. Ed. 305	3
Bus. Ed. 320	3
Bus. Ed. 489	2
Bus. Mgt. 200	2

*Bus. Fundamentals Requirement.

Additional hours of elective business courses, including at least six hours from the Accounting Department and six hours from the Economics Department, selected in consultation and with approval of student's major adviser to make a total of 51 hours. Some suggested elective courses are

Acctg. 342	3
Bus. Ed. 204	2
Bus. Ed. 206	2
Bus. Ed. 370	3
Bus. Ed. 377A,B,C,D,E,F	1-3
Bus. Ed. 485	1
Bus. Mgt. 241 or 341	3
Bus. Mgt. 321	3
Comput. Sci. 201	2

Comput. Sci. 230	3
Comput. Sci. 331	3
Econ. 241	3
Econ. 274	3
Geog. 231	3

All business teacher majors must take the following courses in the four-semester sequence shown below. (Check course descriptions for course prerequisites.)

Ed. 301	1-2
Bus. Ed. 377A,B,C,D,E,F (1 cr. ea.)	3
Hours in excess of 3 hours required in professional edu- cation sequence may be counted as part of major re- quirements.	
Bus. Ed. 479	8
Ed. 403 and Bus. Ed 489	4 and 2

Minors

See the Education section of this catalog for approved business teacher minors.

The Business Education Department also offers two nonteaching minors—one in the office administration program and one in the executive assistant program.

The office administration minor requires the completion of 14 hours of credit, including Bus. Ed. 206, 220, 305, 320, and Bus. Mgt. 321 or Comput. Sci. 230.

An executive assistant minor requires the completion of at least 14 hours of credit, including Bus. Ed. 113, 203, 206, 220, and 370. Additional hours may be completed by electives in the Business Education Department.

Courses

100G. Introduction to Business. (3:5:0) F.S.

An introduction to business functions and vocabulary for students without a background understanding of the American business economy. Registration by invitation.

101. Beginning Typewriting. (2:3:2) F.S.Su.

Mastery of the keyboard and development of basic skills. Students with high school credit in typewriting should not register for this course.

111. Elementary Shorthand. (4:5:1) F.S.Su. Prerequisite: Bus. Ed. 101 or equivalent.

Fundamentals of shorthand theory, with emphasis on fluency in reading and writing shorthand. Not recommended for students with previous shorthand experience.

112. Intermediate Shorthand. (3:5:1) F.S.Su. Prerequisite: Bus. Ed. 111 or equivalent.

Development of accelerated shorthand writing and transcription competency. Enrolling students should be able to take dictation at a minimum of 60 words per minute and typewrite at 50 words per minute.

113. Advanced Shorthand. (3:5:1) F.S.Su. (m) Prerequisite: Bus. Ed. 112 or equivalent.

Emphasis on accelerated shorthand writing and rapid transcription of letters. Enrolling students should be able to take dictation at a minimum of 80 words per minute and typewrite at 50 words per minute.

203. Speedbuilding in Production Typewriting. (2:3:2) F.S.Su. (m) Prerequisite: Bus. Ed. 101 or equivalent.

Intensive drills, with emphasis on production of speed and control in the production of manuscripts, outlines, minutes, tabulations, letter writing, rough drafts, and legal instruments.

204. Advanced Production Techniques in Typewriting. (2:3:2) F.S. Prerequisite: Bus. Ed. 203 or equivalent.

Application of advanced production techniques to practical business

problems, including statistical reports, office projects, editing, and composition.

206. Calculating Machines. (2:3:2) F.S.Su. (m)

Instruction and practice in the operation of adding machines, rotary calculators, printing calculators, and electronic calculators for solving practical business problems.

220. Business Communication. (3:3:0) F.S.Su. Home Study also. (m) Prerequisites: Engl. 111, 112.

Experience in the composition of business correspondence, with emphasis on the psychological principles which foster favorable human relations and goodwill.

275. Stenographic Procedures. (4:3:3) F.S.Su. Prerequisites: Bus. Ed. 203, 204.

Comprehensive review of office responsibilities, accompanied by laboratory experiences: duplicating, transcription, human relations, record management.

☐ **Accounting 301, 302. Intermediate Accounting.** (3:3:0 ea.)

305. Principles and Methods for Analyzing Office Operations. (3:3:0) F.S. Home Study also. (m)

An introduction to the basic functions of administrative management. Concentrates on data processing, leadership, organization, work simplification, and systems control.

310. Philosophy of Vocational Business Education. (2:2:0) F.Su.

Development of a modern philosophy of vocational education, with emphasis on the importance of cooperative distributive education in a free-enterprise system.

311. Transcription. (3:3:4) F.S.Su. Prerequisites: Bus. Ed. 220 and 113 or equivalent.

Emphasis on accurate and rapid shorthand transcription utilizing a variety of written communication skills. A minimum speed of 100 words per minute is required for entrance.

315. Coordination Techniques in Cooperative Business Education. (2:2:0) S.Su.

Instructional methods and coordination techniques involved in teaching cooperative business and distributive education.

320. Report and Business Writing. (3:3:0) F.S.Su. (m)

Experience in the organization and preparation of business reports, with emphasis on the refinement of language skills and the techniques of collecting, analyzing, interpreting, and presenting business data.

☐ **Business Management 321. Organizational Behavior and Administration.** (3:3:0)

☐ **Accounting 356. Accounting Information Systems.** (3:3:0)

370. Records Control and Office Machines. (3:3:3) F.S.Su. (m) Prerequisite: Bus. Ed. 203.

Mastery of the fundamentals and principles of records management,

377A,B,C,D,E,F. Secondary Teaching Procedures. (1:2:0 ea.) F.S.Su. Prerequisites: Ed. 301; Acctg. 201, 202; Econ. 101 or 111.

A—Bookkeeping; B—Cooperative Education; C—Economics and General Business; D—Office Education; E—Stenography; F—Typewriting.

☐ **Business Management 380, 381. Executive Lectures.** (1:1:0 ea.)

411. Expert Shorthand. (3:5:1) S. Prerequisite: Bus. Ed. 311.

Emphasis on high-speed shorthand writing with specialized vocabularies and shortcuts. Enrolling students should be able to take dictation at a minimum of 120 words a minute.

- 470R. Cooperative Business Experience Internship.** (1-8:0;5-40 ea.) F.S.Su. Prerequisites: completion of major requirements and consent of department chairman.

The student is placed in an office or business enabling him to enrich classroom theory with practical application. Arrangements for the internship must be made during the semester before enrollment.

- 475. Procedures for Executive Assistants.** (3:3:2) F.S.Su. Prerequisites: Bus. Ed. 204, 220, 311, 320, and 370.

Culminating secretarial course including coordination and integration of past learnings; studies in human relations and specialized secretarial duties (minutes of meetings, itineraries, legal work, etc.).

- 479. Secondary Student Teaching.** (8:0:40) F.S. Prerequisite: Bus. Ed. 377.
For course description and fee, see Ed. 479.

- 480. Case Studies in Office Management.** (2:2:1) S. (Alternate years)

Extensive use of cases in office management. Student analysis, group discussions, and written reports form the principal basis for conduct of the course.

- 485, 486. Lectures on Office Administration.** (1:1:0 ea.) F.
Each offered alternate years.

- 489. Senior Seminar for Business Teacher Majors.** (2:2:0) F.S.Su. Prerequisite: Bus. Ed. 479.

An analysis of the business teacher's role and responsibilities in the secondary school.

□ **Accounting 555. Data Processing Systems.** (3:3:0)

- 605. Introduction to Research in Business Education.** (3:3:0) F.Su.

An examination of research methods and procedures applicable to business education, with emphasis on the analysis and evaluation of methodology reflected in existing research.

- 615. Methods of Instruction in Business Education: Typewriting and Shorthand.** (3:3:0) F.Su.

An analysis of classroom methods, psychology of learning, and findings of research pertaining to improvement of instruction in typewriting, shorthand, and related subjects.

- 620. Methods of Instruction in Business Education: Bookkeeping and Economic Education.** (3:3:0) S.Su.

An analysis of course content, classroom methods, and teaching materials pertaining to improvement of instruction in bookkeeping and economic education.

- 625. Tests and Measurements in Business Education.** (3:3:0) S.Su. Prerequisite: Stat. 221 or equivalent.

A survey of classroom tests and instruments of evaluation used in business education, and an analysis of their uses and methods of construction.

- 630. Current Developments Influencing the Curriculum and Content of Business Education.** (2:2:0) S.Su.

A study of recent technological developments, such as automation in business, and an analysis of the content, materials, and procedures of business education.

- 635. Implications of Research for Improved Classroom Instruction.** (3:3:0) F.Su.

Review and analysis of recent research in business education, and evaluation of its implications for improved classroom instruction.

- 640. Trends of Thought in Business Education.** (2:2:0) F.Su.

Fundamental ideas that have shaped the business curriculum in the United States, and basic issues that have affected purposes, trends, and control of business education in public and private institutions.

- 650. Supervision and Administration in Business Education.** (2:2:0) S.Su.
A review of principles and practices related to the organization and direction of instructional programs in business education and to the selection and utilization of faculty personnel.
- 655. Cooperative Business Education.** (2:2:0) S.Su.
A study of the philosophy and objectives of cooperative office and cooperative distributive education programs in business education, with emphasis on their organization, coordination, and evaluation.
- 675, 676. Business Education Workshop.** (2-3:2-3:0 ea.) F.S.Su.
A series of clinics in selected business subjects.
- 690A,B,C,D. Seminar in Business Education.** (1:17:23 ea.) Su.
An intensive one-week clinic emphasizing teaching methodology in one or more selected topics in business education.
- 692. Research Project.** (1-4:Arr.:Arr.) F.S.Su.
- 694. Independent Readings.** (1-2:1-2:0) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.



Instructor explaining secretarial management skills

Business Management



Professors: Boyle (emeritus), E. Christensen, Oaks, W. Taylor.

Associate Professors: Barnes, Call (chairman, 395 JKB), Daines, Eager*, Pinney, Stanford.

Assistant Professors: J. M. R. Covey, Lambert, McKinnon.

Instructors: C. Christensen*, Cox*, Hatch, Longmore, Pearce, Smith*.

The primary objectives of the department are (1) to prepare students for responsible leadership in their chosen professions; (2) to train, in depth, students interested in careers in marketing, production, finance, or other functional areas; and (3) to give students a broad understanding of individual and group behavior in industry.

Both the content and instructional methods of business management courses are designed to develop qualities in students which will help them to realize their potential. Emphasis is placed on analytical skill and sound reasoning, insight and balanced judgment, understanding of human problems in organizations, proficiency in written and oral communication, and the rigor of learning one's own initiative. The Department of Business Management also recognizes its responsibility to acquaint students with current research findings in the social sciences, techniques of decision making, new tools of quantitative analysis, and other applications of the management sciences. In addition, students are exposed to changing values and goals in today's society; the social responsibility of business leadership; the changing role of government in society and international trade; and the growth of multinational diversified corporations.

The following fields of concentration are administered by the Department of Business Management: general business, finance, marketing, industrial management, industrial relations and personnel, and international business. After completing general education and the college and departmental core requirements listed below, a student must elect one of the departmental concentrations.

An automatic composite minor in accounting and economics will have been earned by those students majoring in the department at the successful completion of the college and departmental core requirements.

Division of Business Fundamentals

All students desiring to major in business management will register in the Division of Business Fundamentals until they have completed the College of Business lower-division core course requirements and have completed at least 62 semester hours of approved university credit. Core courses are as follows:

Econ. 111, 112

Math. 108 (or equivalent)

Stat. 221

Acctg. 201, 202, 232

Upon completion of these requirements, students who have earned a 2.25 grade-point average in the above-mentioned core courses will be permitted to register in the Department of Business Management.

A maximum of six hours of "D" credit in College of Business courses will be allowed for graduation, no more than three hours of which may be in business management courses.

For details concerning the program of graduate study leading to the Master of Business Administration degree, students should consult the Graduate School Catalog.

General Education

(Freshman through senior years)

See the Student Academic Services section of this catalog for courses needed to satisfy the general education requirements of the University. A detailed discussion of courses which can be taken in each required area is listed therein.

COLLEGE AND DEPARTMENTAL CORE

Freshman and Sophomore Years		Junior and Senior Years	
	Hours		Hours
Math. 108	4	Acctg. 342	3
Acctg. 232 or Math. 109	3 or 4	Econ. 301 or 302	3
Acctg. 201, 202	6	Bus. Mgt. 301	3
Econ. 111, 112	6	Bus. Mgt. 321	3
Stat. 221	3	Bus. Mgt. 341	3
		Bus. Mgt. 361	3
		Bus. Mgt. 499	3

GENERAL BUSINESS CONCENTRATION

This is an integrated multifunctional program designed for exceptional students. It is particularly adapted to the needs of students who intend to continue their study of business at the graduate level at a school other than BYU. A minimum overall grade-point following completion of the college core is required. Interested students should make written application to the department chairman at least four semesters before planned date of graduation.

Students electing this concentration are required to take Math. 109 rather than Acctg. 232.

Students electing this concentration are required to take the following courses:

	Hours		Hours
Bus. Mgt. 461 or 462 or		Bus. Mgt. 459	3
Stat. 433	3	Electives (See note, Page 161.) ..	6
Bus. Mgt. 401	3		

FINANCE CONCENTRATION

The course work offered in this area is designed, first, to familiarize business students with the elements of financial planning and, second, to provide specialized work for those who seek positions of management and executive responsibility in financial institutions or the financial departments of business firms. The requirements are flexible enough to allow some specialization toward commercial banking, investment banking, business finance, insurance, real estate, investment management, or financial counseling.

Students electing this concentration are required to take the following courses:

	Hours		Hours
Bus. Mgt. 401	3	Bus. Mgt. 410	3
Bus. Mgt. 405	3	Electives (See note, Page 161.) ..	6

MARKETING CONCENTRATION

The marketing concentration is designed to prepare students for positions of management and executive responsibility in the fields of industrial marketing, retailing, wholesaling, advertising, sales management, and market research.

Students electing this concentration are required to take the following courses:

	Hours		Hours
Bus. Mgt. 458	3	Bus. Mgt. 454	
Bus. Mgt. 459	3	Bus. Mgt. 455	
Two of the following:		Bus. Mgt. 456	6
Bus. Mgt. 442		Electives (See note, Page 161.) ..	3
Bus. Mgt. 443			

OPERATIONS MANAGEMENT CONCENTRATION

The operations management concentration provides training for positions in production management, industrial engineering, production control, and purchasing. It facilitates entry into the operational departments of business enterprises, executive trainee programs, the active management of small businesses, or the continuation of training in a graduate school of business.

Students electing this concentration are required to take Math. 109 rather than Acctg. 232 and should take C.E. 101 (graphics). It is highly recommended that Indus. Tech. 231 and several courses in chemistry and physics be taken. The following courses are required:

	Hours		Hours
Bus. Mgt. 461 or Stat. 433.....	3	Stat. 432	3
Bus. Mgt. 462	3	Comput. Sci. 331 or 333	3
Bus. Mgt. 463	3		

INDUSTRIAL RELATIONS AND PERSONNEL MANAGEMENT CONCENTRATION

The personnel management concentration is designed to prepare students for positions in the personnel and employee relations areas for marketing, financial, and manufacturing institutions in business.

Students electing this concentration are required to take the following courses:

	Hours		Hours
Bus. Mgt. 421	3	Econ. 361	3
Bus. Mgt. 425	3	Electives (See note, Page 161.) ..	6

INTERNATIONAL BUSINESS CONCENTRATION

The concentration in international business is designed to prepare students for careers in multinational companies. The concentration has three broad objectives: the development of skill in the management of foreign operations, the acquisition of sensitivity to cultural and environmental factors, and the development of competence in one of the functional areas of business management (finance, marketing, personnel, and operations management). In order to graduate in the international business concentration, a student must have completed 16 hours or demonstrated competence in a foreign language.

	Hours		Hours
Bus. Mgt. 431	3	Geog. 455, 460, 470, 475, or 480	
Bus. Mgt. 432	3	(one area study)	2 or 3
Bus. Mgt. 439	3	Electives in one functional	
Econ. 358	3	area in the Business Manage-	
		ment Department	6

Supporting Field in International Business

Graduate students outside the College of Business who decide to obtain an understanding of international business without majoring in the department may take Bus. Mgt. 430, "Introduction to International Business." This course is a survey course designed to acquaint the student with micro and macro dimensions in international business. Those interested in a supporting field in international

business may also take Bus. Mgt. 432 upon approval of the instructor and the chairman of the Business Management Department.

Note: Electives may be selected from any 400-level business management courses and from among certain relevant courses from other departments at the University by approval of department chairman.

MINOR IN BUSINESS MANAGEMENT

Students minoring in the Department of Business Management should complete the College of Business lower-division core course requirements plus twelve hours selected from among upper-division business management courses (excluding Bus. Mgt. 380 and 381).

OFFICE ADMINISTRATION MAJOR

See Department of Business Education.

NEW COURSE NUMBERS

Please note that many course numbers have been changed in the catalog. The numbering system now indicates by the last two digits the concentration of each class according to the following: finance, 0-19; organization behavior, 20-29; international business, 30-39; marketing, 40-59; production, 60-69; miscellaneous, 80-89; and policy and special classes, 90-99.

In order to avoid confusion, the old numbers of classes which have new numbers this year will be found in parentheses following the course descriptions.

Courses

- 200. Personal Finance.** (2:2:0) F.S. Home Study also.
A practical course in money management, with particular reference to utilization of savings. (Formerly 205)
- 210. Introduction to Investments.** (3:3:0) F.S.
Security markets, selection of stocks for a portfolio, and basic investment analysis. Designed for nonbusiness majors.
- 241. Introduction to Marketing.** (3:3:0) F.S.
The principles, concepts, and problems concerned with the distribution of goods from producer to consumer. Includes treatment of buyer behavior, product planning, pricing, and promotion. (Formerly 247)
- 256. Introduction to Retailing.** (3:3:0) F.S.
A survey of retail store operation which considers executive control, profit planning, merchandising, store location, layout, organization, policies, system, and coordination of store activities.
- 301. Financial Management.** (3:3:0) F.S.Su. (m) Prerequisites: College of Business fundamentals courses. Call, Faerber, Longmore, Pearce
Introduction to the elements of financial management from the viewpoint of the business manager, emphasizing profitability, liquidity, and long-range financial planning. (Formerly 348)
- 321. Organizational Behavior and Administration.** (3:3:0) F.S.Su. (m) Covey, Lambert, Stanford
Analysis of case studies and research findings to develop the skills necessary to understand and take action on human problems in business organizations.
- 341. Marketing Management.** (3:3:0) F.S.Su. (m) Prerequisites: College of Business fundamentals courses. Barnes, Hatch, McKinnon, Taylor
Analysis of problems in marketing management, with particular emphasis on understanding and use of basic concepts and tools of analysis for marketing decision making. (Formerly 347)

- 361. Operations Management.** (3:3:0) F.S.Su. (m) Prerequisites: College of Business fundamentals courses. Faerber, Hatch, Longmore
Scientific management and management science, for application to decision making and managing. (Formerly 340)
- 380, 381. Executive Lectures.** (1:1:0 ea.) S. Barnes
Top executives from throughout the nation visit the campus and meet students in a series of lectures dealing with subjects significant to executive leadership.
- 401. Advanced Financial Management.** (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 301; Econ. 301 or 302. Recommended: Bus. Mgt. 410. Call, Daines, Lambert, Faerber
Capital budgeting, cost of capital, mergers and acquisitions, and current financial problems. (Formerly 552)
- 405. Commercial Bank Management.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 301. Recommended: Econ. 302. Call
Structure of banking and financial markets; organization, management, and regulation of banks; sources and uses of bank funds, emphasis upon asset portfolio policy; current problems. (Formerly 452)
- 406. Management of Financial Institutions.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 405. Call
Management problems of major financial institutions; emphasis upon asset management, loan management, competitive environment, regulation, and the process of financial intermediation between borrowers and savers. (Formerly 571)
- 410. Investments.** (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 301; Econ. 301 or 302, or consent of instructor. Daines, Lambert, Pearce
Security market, portfolio management, taxes, estate planning, and security analysis. (Formerly 451)
- 411. Advanced Investments.** (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 301, 410. Recommended: Bus. Mgt. 401. Daines, Lambert, Pearce
Current investment literature, Markowitz theory, random characteristics of stock market prices, investment, research, and security analysis. (Formerly 574)
- 421. Advanced Organizational Behavior and Administration.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 321. Covey, Lambert, Stanford
This course examines work groups in business situations. Cases and a report on a work group are used to develop administrative skills in applying general principles. (Formerly 521)
- 425. Personnel Management.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 421. Covey, Oaks
Management of the personnel function; job evaluation, organization planning, employee selection, training, compensation, morale, labor relations, and management development. Method case analysis and research projects.
- 430. Introduction to International Business.** (3:3:0) F.S. (m) Prerequisite: consent of instructor. Barnes, Pinney
Introduction to the complexities confronting U.S. firms and their management in international environments. Emphasis is given to functional and planning areas, including organization, market research, financial analysis, etc. (Formerly 530)
- 431. International Marketing.** (3:3:0) F. (m) Prerequisites: Bus. Mgt. 301, 321, 341, 361, or consent of instructor. Barnes, Pinney
An analysis of selected international markets, institutions, and marketing management practices. (Formerly 531)

- 432. International Corporate Finance.** (3:3:0) S. (m) Prerequisites: Bus. Mgt. 301, 321, 341, 361, or consent of instructor. Pinney
Emphasis is on financial aspects of multinational corporations operating within an international environment. Included are discussions concerning direct foreign investment, foreign exchange regulations, capital markets, etc. (Formerly 532)
- 439. International Management.** (3:3:0) S. (m) Prerequisites: Bus. Mgt. 431, 432, or consent of instructor. Barnes, Pinney
An interdisciplinary approach to problems of administrative planning for long-range operations by multinational companies.
- 442. Marketing Management and the Consumer.** (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 341; Psych. 111 or Sociol. 111. Barnes, Pinney, McKinnon
Analysis of the role of the consumer in marketing decisions. (Formerly 357)
- 443. Product and Brand Management.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 341. Barnes, McKinnon
A functional approach to the management of brands and products.
- 454. Problems in Sales Management.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 341. Oaks
Problems in sales methods, sales organization, management of sales force (selection, training, compensation, and supervision), and sales planning and control.
- 455. Problems in Advertising.** (3:3:0) S. (m) Prerequisite: Bus. Mgt. 341. Barnes
Problems in the use of advertising as part of management's overall marketing strategy. Stresses planning, coordination, control, and evaluation of effectiveness.
- 456. Problems in Marketing Channel Management.** (3:3:0) F. (m) Prerequisite: Bus. Mgt. 341.
A study of the problems involved in the use, management, and integration of retail stores and other intermediaries in the channel of distribution.
- 458. Marketing Research.** (3:3:0) (m) Prerequisite: Bus. Mgt. 341. Barnes, McKinnon
Exploration of uses, methods, and techniques of marketing research. A major research project is required.
- 459. Advanced Marketing Theory and Management.** (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 341; Econ. 301 or 302. Should be taken last semester of program. Barnes, McKinnon, Pinney
An interdisciplinary approach to the study and analysis of marketing problems. Emphasis is given to the contributions of the behavioral and quantitative sciences. (Formerly 579)
- 461. Analytical Techniques in Operations Management.** (3:3:0) F. (m) Prerequisite: Math. 109. Faerber, Hatch, Longmore
A study of the optimum allocation of men, machines, materials, and money in an operational complex.
- 462. Analysis of Systems.** (3:3:0) F. (m) Prerequisites: Bus. Mgt. 361; Math. 109. Faerber, Hatch, Longmore
A systems approach to analyzing the problems of planning, controlling, and improving sequences of operations. Course includes critical path scheduling, methods study, and time standards.
- 463. Advanced Operations Management.** (3:3:0) S. (m) Prerequisite: Bus. Mgt. 462. Faerber
Cases, readings, research, and reports on current industrial practices and problems.

- 464. Industry Analysis.** (3:3:0) F.S. (m) Prerequisites: Bus. Mgt. 301, 341, 361. Faerber
Production characteristics of major industries. Large business units are studied in terms of sources of raw materials, production techniques, financial structure, degree of integration, stage of maturity, character of mechanization, government regulation, and possible future developments. (Formerly 485)
- 468. Advanced Production Methods.** (2:2:0) S. (m) Prerequisites: Bus. Mgt. 361, 461. Faerber
Advanced methods work, automation, and the application of data processing to industrial operations. (Formerly 575)
- 480. Risk Management.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 301.
The importance of risk in personal and business affairs; the different methods of meeting risks; meeting insurable risks through insurance; risk and public policy. (Formerly 440)
- 481. Life and Health Insurance.** (2:2:0) F. (m) Prerequisite: Bus. Mgt. 480.
Study of protection against economic loss caused by termination of earning capacity through unforeseen contingencies. Analyzes benefits, underwriting, rate-making, and legal doctrines. (Formerly 465)
- 482. Property and Liability Insurance.** (2:2:0) S. (m) Prerequisite: Bus. Mgt. 480.
Study of the protection provided by property and liability insurance, including multiple-line and "all risks" insurances, and corporate suretyship. (Formerly 466)
- 484. Transportation Management.** (3:3:0) F. (m) Prerequisites: Bus. Mgt. 301, 341, 361.
An examination of current problems of management in the transportation industries through discussion of cases and readings. (Formerly 459)
- 487. Real Estate Administration.** (3:3:0) S. (m) Prerequisites: Econ. 111, 112, 301 or 302.
An application of the principles and techniques on problems in property investments. Includes determination of value, financing arrangements, and marketing and management problems. (Formerly 467)
- 488. The Social and Cultural Environment of Business Enterprise.** (3:3:0) S. (m) Prerequisite: senior standing in the department. Faerber
The influence of historical, cultural, psychological, and social forces on business behavior. (Formerly 477)
- 491. Research and Diagnosis of Business Problems.** (1-2:Arr.:Arr.) F.S. (m) Prerequisite: completion of or concurrent registration in Bus. Mgt. 499.
- 499. Business Policy.** (3:3:0) F.S.Su. (m) Prerequisites: Bus. Mgt. 301, 321, 341, 361. Call, Daines, Lambert, Oaks, Stanford
Cases involving determination of long-range objectives in the business firm, and the development of sound and consistent policies for achieving these objectives. (Formerly 489)
- 610. Managerial Economics.** (3:3:0) F.
Analysis of the decision-making behavior of consumers and firms in a market economy.
- 611. Written Analysis I.** (2:3:0) F.
Written analysis of the characteristics of an administrative viewpoint. (Formerly 626)
- 612. Quantitative Business Analysis I.** (3:3:0) F.
Techniques of mathematics, with special emphasis on applications to business situations. (Formerly 602)

- 613. Management Computer Concepts.** (2:3:0) F.
The development of electronic computer concepts and programming, with a focus on the role of a computer in a business firm. (Formerly 608)
- 614. Management Control I.** (3:3:0) F.
Accounting as a tool for management; coordination of departmental operations; and control of assets. (Formerly 604)
- 616. Organizational Behavior.** (3:3:0) F.
A training laboratory experience devoted to the stimulation and support of administrative learning and change. (Formerly 606)
- 620. Environmental Economics.** (3:3:0) S.
Analysis of the measurement, level, and rate of growth of national income. (Formerly 624)
- 622. Quantitative Business Analysis II.** (2:3:0) S.
The use of probability and statistical inference in risk situations. The focus is on business problems. (Formerly 620)
- 623. Management Simulation.** (1:3:0) S.
Integration of functional areas of business and organizational behavior by use of computer simulation techniques.
- 624. Management Control II.** (3:3:0) S.
Accounting as a means of coordinating the operations of a business firm with market conditions. (Formerly 614)
- 625. Marketing Management I.** (2:3:0) F.
Imaginative problem-solving in marketing management with the aid of business cases and readings. (Formerly 612)
- 627. Production Concepts.** (3:3:0) S.
Cases and readings on current production processes and problems. (Formerly 616)
- 628. Business Finance I.** (2:3:0) S.
Development of the subject of finance from the point of view of the business manager. Emphasizes the use of financial statements and develops techniques and concepts for analysis of liquidity, profitability, and financial planning. (Formerly 618)
- 631. Written Analysis II.** (1:1:0) F.
The preparation of a major topical research report drawn from first-hand industrial observation. (Formerly 661)
- 635. Marketing Management II.** (2:3:0) F.
A strategic approach to product planning, pricing, consumer profiles, and market development. (Formerly 659)
- 636. Human Relations.** (2:3:0)
Concepts of human relations theory, with particular emphasis on group and intergroup conflict and collaboration. (Formerly 665)
- 638. Business Finance II.** (2:3:0) F.
Analytical approach to such financial management concepts as capital budgeting and present value, valuation, reorganization, dividend policy, stockholder relationships, money and capital markets, and long-range financial planning. (Formerly 657)
- 639. Business Policy I.** (3:3:0) F.
A top-management approach to the problems of determining corporate strategy. (Formerly 653)
- 641. Written Analysis III.** (2:3:0) S.
An analytical critique and presentation of a major topical research report. (Formerly 671)

649. **Business Policy II.** (2:3:0) S.
A top-management approach to the problem of implementing corporate strategy. (Formerly 663)
652. **Advanced Mathematical Analysis for Business Decisions.** (3:3:0) S.
A study of quantitative decision models under certainty, risk, and uncertainty. (Formerly 655)
654. **Controls III.** (3:3:0) F.
Profit planning, cost analysis, and impact of federal income taxes on business decisions.
655. **Business Research.** (3:3:0) F.
Application of research techniques in solving specific problems in marketing and management.
657. **Systems Analysis and Design.** (3:3:0) F.
Analyzing the problems of planning, controlling, and improving systems. (Formerly 651)
658. **Investments.** (3:3:0) S.
The principles and practice of investment, with special attention to investment analysis, elements of the investment process and markets and criteria for investment decision. Problems of both individual and institutional investors will be considered. (Formerly 669)
659. **Problems in Small Business Administration.** (3:3:0) F.
Consideration of management problems faced by founders, owners, managers, and investors in small business.
660. **The Business Administrator and Government Policy.** (2:3:0) S.
The impact of governmental policies and practices on a business administrator. (Formerly 673)
665. **Management of Distribution.** (3:3:0) S.
Sales organization; planning and control; selection and training of salesmen; supervision of decentralized operation.
668. **Management of Financial Institutions.** (3:3:0) S.
Review and analysis of the structure of our overall financial system to develop understanding of the primary forces which affect this system. Consideration of the major financial management problems of principal financial institutions. (Formerly 667)
675. **International Business Management.** (3:3:0) S.
Business decision making in other countries, with emphasis on financial reporting, personnel practices, production processes, and marketing channels.
679. **Business, Society, and the Individual.** (3:3:0) S.
Ethical concepts in business administration and the influence of business upon the individual and the total social environment. (Formerly 677)
680. **Seminar in Financial Management.** (3:3:0) (Offered alternate semesters)
Prerequisite: consent of instructor.
691. **Seminar in Financial Institutions.** (3:3:0) (Offered alternate semesters)
Prerequisite: consent of instructor.

Chemical Engineering Science

Distinguished Professor: Hall.

Professors: Barker, Christiansen, Pope, (chairman, 176 ELB).

Associate Professors: Clark, Coates, Glassett, Hanks, Horton, Smoot.

Assistant Professor: Rogers.



The Department of Chemical Engineering Science offers professional training leading to the degrees of Bachelor of Engineering Science (BES), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.). The curriculum is fully accredited by the Engineers Council for Professional Development as a professional engineering curriculum.

A principal activity of the professional engineer is to change raw materials into useful and valuable products, utilizing a basic knowledge of chemistry, physics, mathematics, and economics. Using this knowledge he conducts research on processes, and designs, builds, and operates complex manufacturing plants. Graduates in chemical engineering obtain positions in virtually every industry. They are involved in activities ranging from pollution control to rocket propellant manufacturing. In addition to the basic chemical and petroleum industries, graduates are employed in atomic energy production, bioengineering, space technology, and many other fields. Because of this broad background in chemistry, physics, and mathematics, the chemical engineer often assumes the role of a supervisor, a technical representative, or a manager. This training also qualifies him particularly well for a career in research and development.

The prescribed courses of study in chemical engineering, in addition to basic and advanced mathematics, physics, and chemistry, include heat transfer, thermodynamics, fluid dynamics, chemical reaction kinetics and catalysis, engineering materials, such separation processes as distillation and extraction, and plant design. More specialized courses, such as process dynamics, are offered at the graduate level.

Students who desire to be technicians or technologists rather than engineers should consult the offerings of the College of Industrial and Technical Education.

Entrance Requirements

Entrance requirements are similar for all branches of engineering and are specified in detail in the section of this catalog devoted to a description of the College of Physical and Engineering Sciences, Page 93.

Grade Requirements

To maintain standing and to continue in the Chemical Engineering Science Department, a student must maintain a cumulative grade-point average of 2.0 or better in each of the following subjects: mathematics, chemistry, and physics. Students not maintaining this average will be placed on probationary status in the department.

In order to graduate, a student must maintain an overall average of at least 2.0. No more than three hours of "D" credit in the major department will be counted toward graduation.

Course Requirements

Maximum advantage should be taken of the four hours of religion credit given for attending devotional assemblies for a period of four years.

Engineering students may register for 18 hours per semester exclusive of physical education and forum and devotional assemblies without obtaining special permission.

The courses required for the BES and M.S. degrees in chemical engineering are summarized in the following tabulation. The BES degree requires 154 semester hours of credit.

Transfer students should contact the department chairman prior to starting work in the department for a suggested course of study. In most cases, it will be advantageous to obtain credit for Ch.E. 273 by correspondence to avoid a delay in completing the required course work.

NOTE: Curriculum is under extensive revision at this time. For further details, please see the department office.

Suggested sequence of courses leading to the BES degree in chemical engineering:

Engineering.		Freshman				Ch.E. 373		2	
		F	S				Ch.E. 378	3	
Ch.E. 100	.....	1					Chem. 461, and		
Chem. 111, 112, 113,	.....						462, 464	3	5
114	.....	5	5				C.E. 201	2	
Math. 112, 113	.....	4	4				Math. 323	3	
Engl. 111, 112	.....	3	3				Engl. 316	2	
Health 130 (a)	.....	2					Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Hist. 170 (a)	.....		3				Physics 221	3	
Relig. 121, 122	.....	2	2						
Dev. assy.	.....	$\frac{1}{2}$	$\frac{1}{2}$					16 $\frac{1}{2}$	16 $\frac{1}{2}$
P.E.	.....	$\frac{1}{2}$	$\frac{1}{2}$						
		18	18						
Sophomore						Senior		F	S
		F	S				Ch.E. 476	3	
Ch.E. 273	.....		3				Ch.E. 477	1	
Chem. 351, 352	.....	3	3				Ch.E. 474	3	
Chem. 353	.....		1				Ch.E. 478	3	
Physics 121, 122	.....	3	3				Ch.E. 464		3
Math. 214, 321	.....	3	3				Ch.E. 491	$\frac{1}{2}$	$\frac{1}{2}$
Approved elect.	.....	2					Ch.E. 499	1	2
Hum.	.....	3					E.E. 301	2	
E.E. 307	.....		1				Biol. sci.		4
Relig.	.....	2	2				Soc. sci.		3
Dev. assy.	.....	$\frac{1}{2}$	$\frac{1}{2}$				Approved elect. (b)	4	5
P.E.	.....	$\frac{1}{2}$	$\frac{1}{2}$				Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
		17	17					18	18
Taken in Summer or by Extension						Master of Science Degree			
Relig.	.....	4				5th year (c)		F	S
Hum.	.....	3					Ch.E. 673	3	
Approved elect.	.....	3					Chem. 561	3	
Econ. 111	.....	3					Approved elect.		3
			13				Ch.E. 699	4	2
							Ch.E. 677	1	
							Ch.E. 681		3
							Ch.E. 691A,B	1	1
							Supporting subj. (d)	3	6
								15	15
Junior									
		F	S						
Ch.E. 374, 376	.....	3	3						
Ch.E. 375, 377	.....	2	1						

Notes:

- It is recommended that these courses be taken by special examination.
- Qualified students may apply for graduate credit for Ch.E. 699 and for 3 hours of approved elective at the graduate level. This credit will apply

toward graduate-degree requirements if the 154 BES hours are met exclusive of these hours.

- (c) Students with full-time teaching assistantships may take only 9 hours per semester. This will require academic work in the summer following the fifth year.
- (d) The chemical engineering department offers a minor in nuclear engineering. Students electing this minor should register for courses Ch.E. 582 (Nuclear), 682 (Nuclear); and Physics 555, 557. Students who have taken any of these for undergraduate credit may substitute any of the following courses to complete the minor: (The list is not inclusive and other courses may be added by the student's advisory committee.) Chem. 564 (nuclear and radio); Physics 222, 551 (quantum), 552 (atomic nucleus), 645 (plasma), 655 (nuclear); Stat. 336 (stat. methods); M.E. 531 (automatic control); E.E. 513 (linear systems), 411 (feedback), 516 (genit), or any graduate or upper-division heat transfer or fluid flow course.

List of approved elective courses:

Business: Bus. Mgt. 321, 361, 341; Econ. 112.
 Applied Math.: Math. 322, 385, 435, 541, 542; Stat. 332, 336, 337.
 Chemistry: Chem. 504, 514, 581.
 Nuclear Engr.: Physics 315, 316, 551, 552, 555, 557; Ch.E. 582, 499.
 Aerospace Engr.: M.E. 510, 523, 540.
 General: C.E. 103, 303, 304; Physics 222, 321, 322, 342; E.E. 306, 304;
 Comput. Sci. 331, 333, 451.

Courses

- 100. Introduction to Chemical Engineering.** (1:1:0) F.
 Introduction to the profession; lectures on professional development, slide rule; and field trips to selected chemical industries. Individual project work.
- 273. Chemical Process Principles.** (3:3:0) S. Prerequisites: Chem. 106 or 112; Physics 121; concurrent registration in Physics 122.
- 373. Chemical Engineering Thermodynamics.** (2:2:0) S. Prerequisites: Ch.E. 273; Math. 323; Chem. 461.
 The first and second laws of thermodynamics and their application to the behavior of real fluids. Thermodynamic properties of materials, potential functions, and chemical equilibria.
- 374. Introduction to Transport Phenomena.** (3:3:0) F. Prerequisites: Ch.E. 273; Math. 323.
 An introduction to fluid mechanics and heat transfer emphasizing the analogies between these two transport processes. Basic molecular and turbulent theory as well as applications to practical steady-state and transient-state problems.
- 375. Laboratory for Transport Phenomena.** (2:1:3) F. Prerequisite: concurrent registration in Ch.E. 374.
 Laboratory work with experiments to cover the material presented in Ch.E. 374. Emphasis will be placed on data taking, data reduction, and on reporting.
- 376. Unit Operations.** (3:3:0) S. Prerequisite: Ch.E. 374.
 Additional topics in heat transfer and an introduction to mass transfer theory. Applications of transport phenomena theory to chemical engineering unit operations.
- 377. Unit Operations Laboratory.** (1:0:3) S. Prerequisite: concurrent registration in Ch.E. 376.
 An integrated laboratory course to present experiments covering the material presented in Ch.E. 376; emphasis will be on data taking, data reduction, and report writing.

- 378. Science of Engineering Materials.** (3:3:0) F.S. Prerequisites: Chem 106 or 112. Barker, Clark, Hanks
Principles which underlie the behavior and govern the properties of materials as related to their engineering applications.
- 464. Chemical Engineering Plant Design and Economics.** (3:3:0) S. Prerequisite: Ch.E. 376. Glassett, Pope
Design of chemical engineering machinery, plant and/or processes requiring the application of unit operations, chemical process principles, and economic analysis.
- 474. Chemical Engineering Thermodynamics.** (3:3:0) F. Prerequisite: Ch.E. 373.
The first and second laws of thermodynamics and their applications to the behavior of real fluids. Thermodynamic properties of materials, potential functions, and chemical equilibria.
- 476. Unit Operations.** (3:3:0) F. Prerequisite: Ch.E. 376. Barker, Clark
Fundamentals of stage operations. Application of transport principles to such mass transfer operations as distillation, extraction, and absorption.
- 477. Unit Operations Laboratory.** (1:0:3) F. Prerequisite: concurrent registration in Ch.E. 476.
Laboratory work to accompany Ch.E. 476. Unit operations. Data taking, data reduction, and report writing will be emphasized.
- 478. Chemical Engineering Kinetics.** (3:3:0) F. Prerequisites: Ch.E. 373; Chem. 462.
Theories and applications of chemical kinetics in catalytic and non-catalytic reacting systems.
- 479. Process Dynamics and Unit Processes.** (3:3:0) S. Prerequisite: Math. 323 or consent of instructor.
A fundamental study of the measurements and control of process variables. The characteristics of processes, controllers, measuring elements, and the application of closed loop techniques.
- 491A,B. Seminar.** ($\frac{1}{2}$:1:0 ea.)
Group discussions of technical subjects related to the chemical engineering profession. Participation by advanced students (usually reporting on thesis subjects), faculty, and invited guests. Required of all majors in fourth or fifth year.
- 498. Special Problems.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.
- 499. Chemical Engineering Undergraduate Thesis.** (1-3:Arr.:Arr.) F.S.Su.
Undergraduate thesis.
- 582. Introductory Nuclear Engineering.** (3:3:0) F. Prerequisites: Chem. 106 or 112; Math. 214; Physics 221. Barker, Rogers
Principles and application of nuclear reactor design.
- 671. Transport Processes in Reacting Flow Systems.** (3:3:0) F. Prerequisites: Ch.E. 673, 681; Math. 373; Chem. 561; or equivalent. Smoot
Kinetics and transport in reacting, multicomponent flow, with application to complex systems, free jets, particle-laden streams, plasmas, etc.
- 672. Advanced Fluid Mechanics and Rheology.** (3:3:0) S. Prerequisites: Math. 645; Ch.E. 673. Hanks
An advanced treatment of rheology, with emphasis on proper formulation of constitutive equations. Non-Newtonian flow, stability, turbulence, drag reduction, nonisothermal flow, and heat transfer.
- 673. Transport Phenomena.** (3:3:0) F. Hanks, Smoot
General differential equations of conservation of mass, heat, and momentum. Transport coefficients; turbulent flow; interphase transfer, etc.
- 674. Advanced Thermodynamics and Calorimetry.** (2:2:0) F. Christensen
Advanced thermochemistry, including application to measurement of heats of mixing, heat of reaction, equilibrium constant, etc.

- 675. Thermodynamics of Multicomponent Systems.** (3:3:0) S. (Offered in 1971 and alternate years thereafter) Prerequisite: Chem. 561 or Ch.E. 674.
Christensen, Clark, Hanks
Thermodynamic analysis of nonideal multicomponent solutions, use of Gibbs-Duhem equation, prediction of activities and fugacities, thermodynamic consistency of data, development of correlating equations.
- 676. Advanced Diffusional Operations.** (3:3:0) S. Prerequisites: Ch.E. 673; Chem. 561; Math. 323. Clark, Hanks, Smoot
General theory of differential and stagewise diffusional operations, multicomponent separations, application of computers to complex separation design.
- 677. Creative Skills in Chemical Engineering.** (1:1:0) F. Christensen, Horton, Pope
Application of creativity and prior course work to the solution of open-end problems currently being encountered in the frontiers of chemical engineering. Introduction to critical path scheduling and operations research.
- 681. Kinetics and Catalysis.** (3:3:0) S. Christensen, Horton, Pope
Application of fundamental theories of chemical kinetics and transport phenomena to the design of chemical reactors.
- 682. Nuclear Engineering.** (2:2:0) S. Barker, Rogers
Reactor design including reactor physics, heat transfer, engineering materials, instrumentation, and control.
- 683. Advanced Plant Design.** (2:2:0) S. Glassett, Horton, Pope
Comprehensive design of chemical plants including feasibility and market surveys, economic evaluation, raw materials, plant layout, process design, instrumentation, materials of construction.
- 684. Advanced Process Dynamics and Control.** (2:2:0) Barker
Dynamics of chemical processes, the measurement of process variables, and the control of processes using feedback control, computer control, optimization, and automation techniques.
- 686. Distillation.** (2:2:0) Clark, Pope
Binary and multicomponent distillation, prediction of equilibrium relationships, extractive and azeotropic distillation, application of computers to complex distillation column design; instrumentation.
- 687. Chemical Engineering Economics.** (2:2:0) Christensen, Glassett, Pope
An investigation of the basic economic principles which govern the operations of chemical industry.
- 688. Special Problems.** (Arr.)
Investigation of problems of special interest in the field of chemical engineering.
- 691R. Seminar.** (1:1:0 ea.) F.S. (For M.S. students)
Group discussions of advanced technical subjects related to chemical engineering. Presentations by graduate students. Also presentations by faculty members and invited guests.
- 697. Research for Master's Students.** (2-6:0:0) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
- ☐ **Chemistry 769. Selected topics in Physical Chemistry.** (1-3:1-3:0)
- 788. Selected Topics in Chemical Engineering.** (1-3:Arr.:Arr.)
- 791R. Seminar for Doctoral Students.** (1:1:0 ea.) F.S.
- 797. Research for Doctoral Students.** (Arr.) F.S.Su.
- 799. Dissertation for Doctoral Students.** (Arr.) F.S.Su.

Chemistry



Professors: Anderson, Blackham, Broadbent, Bryner, Butler, Goates, Gubler, Hall, Hawkins, Izatt, Nelson (chairman, 225 ESC), Ott, Snow, Swensen.

Associate Professors: Bills, Bradshaw, Cluff, Mangum, Paul, Smith, White, Wilson.

Assistant Professors: Dalley, Jensen, Mangelsen, Pack, Thorne, Wing.

Graduates in chemistry obtain positions in virtually every industry. Graduates with imagination and intellectual curiosity are in special demand to fill research positions. The curriculum in chemistry is rigorous but intellectually rewarding.

A student who wishes to graduate with a major in chemistry certified by the American Chemical Society must successfully complete the following courses: Chem. 111, 112, 113, 114, 351, 352, 354, 355, 461, 462, 464, 491, 514, 521, 594R (1 hour), 504 or 551, plus additional credit chosen from the 500-series courses offered by the department to make a total of 43 hours' credit in chemistry. Chem. 105, 106, and 223 may be substituted for Chem. 111, 112, 113, and 114. Required supporting courses include Math. 112, 113, and 214 (or 141, 142, and 243); Physics 121, 122, 214, and 221 (or 211, 213, and 214); also one year of college credit (or its equivalent) in German or Russian. Additional courses in chemistry, physics, mathematics, or biology are desirable, particularly for the student considering graduate work.

A student may choose to graduate with a major which is not certified by the American Chemical Society. By successfully completing Chem. 111, 112, 113, 114 (or 105, 106, and 223), 351, 352, 353 (2 hours), 461, 462, 464, 491, 594R, and either 514, 521, or 581, a student may obtain a major which meets the minimum University requirements. The attention of the student is directed to the math. and physics prerequisites for certain of these chemistry courses. A chemistry teaching major is offered within the department, and interested students should see the Education section of this catalog for specific requirements for teacher certification.

No more than three hours of "D" credit in chemistry will be counted in meeting the requirements of either of the majors in chemistry. The final 10 hours of chemistry credit required for the B.S. degree must be taken at BYU.

A minor in chemistry consists of Chem. 111, 112, 113, 114 (or 105, 106, 223), plus any one of the following sequences: Chem. 351, 352, 353 (2 hours); 461, 462, 464; 151, 384. No more than five hours of "D" credit in chemistry will be counted in meeting this minor requirement.

For details concerning the program for graduate study leading to the M.S. and Ph.D. degrees in chemistry, students should consult the Graduate School Catalog.

Sample Curriculum

I

	F
Chem. 111*	3
Math. 112 (or 111)**	4-5
Engl. 111	3
Relig.	2
Health 130	2
P.E.	$\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$

15-16

	S
Chem. 112*	3
Chem. 113*	2
Math. 113 (or 112)**	4
Engl. 112	3
Hist. 170	3
Relig.	2
P.E.	$\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$

18

II

F	S
Chem. 114*	2
Chem. 351	3
Math. 214 (or 113)	3-4
Physics 121***	3
Relig.	2
Gen. ed. and electives	2
P.E.	$\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$
16-17	16

III

F	S
Chem. 355	2
Chem. 461	3
Physics 221***	3
Physics 214	1
Relig.	0 $\frac{1}{2}$
German 101	4
Gen. ed. and electives	3
Dev. assy.	$\frac{1}{2}$
16 $\frac{1}{2}$	16 $\frac{1}{2}$

IV

F	S
Chem. 504 or 551†	2-3
Chem. 521	2
Chem. 594R	$\frac{3}{2}$
Advanced chem.	3-2
Relig.	2
Gen. ed. and electives	5
Dev. assy.	$\frac{1}{2}$
15	15-13

*Chem. 105, 106, and 223 may be substituted for Chem. 111, 112, 113, 114.

**Students with deficient high school preparation in mathematics will take Math. 111 in the Fall Semester.

***Physics 211, 213, and 214 may be substituted for 121, 122, 214, and 221.

†Substitution of devotional assembly credit for 2 hours of religion.

†Chem. 551 is recommended for those students whose interests are primarily in organic or biochemistry; Chem. 504 is for those whose primary interest is in analytical, inorganic, or physical chemistry.

Courses

100. Elementary College Chemistry. (3:3:0) F.S.Su. Home Study also. (G-PS)

An introduction to the structure of matter and the chemical consequences of that structure. For nonscience majors in partial fulfillment of the general education requirement for graduation.

101. Introductory Chemistry. (4:3:3) F.S. (G-PS)

General principles of inorganic chemistry for students outside the physical sciences whose discipline requires a supporting background in chemistry.

105, 106. General College Chemistry. (4:4:0, 4:2:6) F.S.Su. (G-PS m) Prerequisites: concurrent registration in Math. 105 or 111 or its equivalent. Recommended: high school chemistry or physics.

A standard one-year sequence of courses in the principles of chemistry for students of the physical and biological sciences, engineering, and the pre-professional medical programs.

- 111, 112. **Principles of Chemistry.** (3:4:0 ea.) F.S. (G-PS m) Prerequisites: completion of or concurrent registration in Math. 106 or 111; completion of one year of high school chemistry. Recommended: one year high school physics. Registration in Chem. 112 and 113 must be concurrent.
- 113, 114. **Introductory Analytical Chemistry.** (2:2:4 ea.) S.F. (G-PS m) Prerequisites: for Chem. 113, concurrent registration in Chem. 112; for 114, completion of Chem. 112 and 113.
151. **Introductory Organic Chemistry.** (5:4:3) F.S. (G-PS m) Prerequisite: Chem. 101 or equivalent.
General principles of organic chemistry for students outside the physical sciences whose discipline requires a supporting background in chemistry.
223. **Quantitative and Qualitative Analysis.** (5:3:6) F.S.Su. (m) Prerequisite: Chem. 106 or consent of instructor.
A course emphasizing the principles of chemical equilibrium, quantitative chemical measurements, and qualitative detection of selected chemical elements.
301. **Fundamentals of Chemistry for General Science Teachers.** (2:2:0) Su.
Restricted to experienced teachers of general science or similar subjects.
- 351, 352. **Organic Chemistry.** (3:3:0 ea.) F.S.Su. (m) Prerequisite: Chem. 106 or 113.
353. **Organic Chemistry Laboratory.** (1-2:0:3-6) F.S.Su. Prerequisite: Chem. 351.
For nonchemistry majors.
- 354, 355. **Organic Chemistry Laboratory.** (2:0:6 ea.) F.S.Su. Prerequisites: Chem. 351 and 352 respectively.
384. **Introductory Physiological Chemistry.** (3:3:0) S. (m) Prerequisite: Chem. 151 or 351.
385. **Physiological Chemistry Laboratory.** (2:0:6) S. Prerequisite: concurrent registration in Chem. 384.
- 461, 462. **Physical Chemistry.** (3:3:0 ea.) F.S., S.Su. (m) Prerequisites: Chem. 112 or 223; Physics 213 or 221; Math. 113 and concurrent registration or completion of Math. 214.
464. **Physical Chemistry Laboratory.** (2:0:6) S.Su. (m) Prerequisite: concurrent registration in Chem. 462.
491. **Chemical Literature and Technical Writing.** (1:1:0) S.
504. **Instrumental Analysis.** (2:1:3) F. Prerequisite: completion of or concurrent registration in Chem. 464.
514. **Inorganic Chemistry.** (3:3:0) S.
518. **Inorganic Syntheses.** (2:0:6) S. (Offered 1971-72 and alternate years)
521. **Analytical Chemistry.** (2:2:0) F. Prerequisite: Chem. 464.
522. **Analytical Chemistry Laboratory.** (2:0:6) F.
524. **Quantitative Microanalysis.** (2:1:3) S. (Offered 1970-71 and alternate years)
551. **Systematic Identification of Organic Compounds.** (3-4:2:3-6) F.
552. **Advanced Organic Chemistry.** (3:3:0) S.
561. **Chemical Thermodynamics.** (3:3:0) F. Prerequisite: Chem. 462.
562. **Advanced Chemical Thermodynamics.** (2:2:0) S. (Offered 1971-72 and alternate years) Prerequisite: Chem. 561.

564. **Nuclear and Radiochemistry.** (2:2:0) S. (Offered 1971-72 and alternate years) Prerequisite: Chem. 462.
- 565, 566. **Modern Physical Chemistry.** (3:3:0 ea.) F.S. Prerequisite: Chem. 462.
581. **Biochemistry.** (3:3:0) F. Prerequisite: Chem. 352.
584. **Biochemistry Laboratory.** (2:0:6) F. Prerequisite: completion of or concurrent registration in Chem. 581.
- 594R. **General Seminar.** (1:1:0 ea.) Required of all senior and graduate students in chemistry every semester in residence.
598. **Special Problems.** (Arr.)
Registration by permission.
600. **Directed Teaching in Chemistry.** (1:1:0) F.S.
601. **Geometry of Atoms and Molecules.** (3:3:0) S.
611. **Chemistry of Main Group Elements.** (3:3:0) S. (Offered 1971-72 and alternate years)
612. **Chemistry of Transitional Elements.** (3:3:0) S. (Offered 1970-71 and alternate years)
658. **Organic Synthesis.** (3:1:6) (Offered Fall 1970-71 and every third semester)
663. **Reaction Kinetics.** (2:2:0) F. (Offered 1971-72 and alternate years)
681. **Biochemistry of Lipids.** (2:2:0) S.
682. **Biochemistry of Nucleic Acids.** (3:3:0) S.
683. **Biochemistry of Carbohydrates.** (2:2:0) F.
684. **Biochemistry of Proteins.** (3:3:0) F.
697. **Master's Candidate Research.** (Arr.)
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)
719. **Selected Topics in Inorganic Chemistry.** (1-3:1-3:0)
725. **Electro-Analytical Chemistry.** (3:3:0) F. (Offered 1970-71 and alternate years)
729. **Selected Topics in Analytic Chemistry.** (1-3:1-3:0)
751. **Mechanisms of Organic Reactions.** (3:3:0) (Offered Spring 1970-71 and every third semester)
757. **Chemistry of Natural Products.** (3:3:0) S. (Offered 1971-72 and alternate years)
758. **Heterocyclic Compounds.** (3:3:0) S. (Offered 1970-71 and alternate years)
759. **Selected Topics in Organic Chemistry.** (1-3:1-3:0)
761. **Statistical Mechanics.** (3:3:0) S. (Offered 1970-71 and alternate years)
765. **Quantum Chemistry.** (3:3:0) F. (Offered 1971-72 and alternate years)
766. **Quantum Chemistry.** (2:2:0) S. (Offered 1971-72 and alternate years)
769. **Selected Topics in Physical Chemistry.** (1-3:1-3:0)
789. **Selected Topics in Biochemistry.** (1-3:1-3:0)
797. **Doctoral Candidate Research.** (Arr.)
799. **Dissertation for the Ph.D. Degree.** (Arr.)

Child Development and Family Relationships



Professors: Cannon, Knowles, Moss (chairman, 203-C SFLC), Porter.

Associate Professors: Allred, Laws, Rollins.

Assistant Professors: Barlow, Burr, Cutler, Mead, Price, Taylor, Vance.

Instructors: Fallows, Larsen, Tyndall, Zollinger.

The Department of Child Development and Family Relationships emphasizes two areas of knowledge at the undergraduate level: child development and family relationships. At the graduate level both areas are offered, as well as a program in marriage and family counseling.

In the child development area, the basic developmental and behavioral characteristics of the child are studied from conception to adulthood. In the family relationships area, students gain knowledge and insight concerning dating, courtship, marriage, and family behavior throughout the family life cycle. Courses are also selected from other departments in order to enrich and broaden the student's understanding of human development.

Vocational Goals

The early childhood education program prepares a graduate to teach in nursery schools, kindergarten, and the early grade levels in elementary schools. Further job opportunities are available in day-care centers and governmental Head Start programs.

The option of child development provides opportunities for students to teach in nursery schools or work in day-care centers, government Head Start programs, and community social services. In addition, the student may, through proper selection of courses, prepare himself for graduate work in child development.

The family relationships option, depending upon the selection of courses, can provide the student with a foundation for graduate studies leading to professional opportunities in teaching, research, community education programs, counseling, or extension services. The graduate program in marriage and family counseling links with the family relationships program to provide students with both subject-matter background and professional counseling skills. The student who completes a bachelor's degree may find vocational opportunities in community social services; government, community, and private youth programs; and in vocations where a knowledge of human relationships is required.

Preparation for Family Living

The study of child development and family relationships from conception to old age provides also the opportunity to gain insight, understanding, and skills necessary for competence in marriage and family relationships. Students who are not majors often elect to take CDFR courses to help them in personal preparation for family living, while majors may combine the personal and professional aspects of such training.

Human Development Laboratories

The human development laboratories are among the most modern in the nation. Through these University laboratories and the facilities of the community, opportunities are provided for observation of and experience with the various aspects of human development from infancy through old age.

Affiliation with Merrill-Palmer Institute

Selected junior and senior students in the department have the opportunity to enhance their professional training by attending one semester at the Merrill-Palmer Institute of Human Development and Family Life at Detroit, Michigan. Students who are interested should contact their adviser and the department chairman.

Requirements for a Minor in CDFR

For a minor in the department, CDFR 210, 361, one course from CDFR 410, 450, and 460, and electives to total 14 hours are required. Special minors may be set up with certain programs, such as elementary education and social work.

Requirements for a Major in CDFR

The department provides three options for undergraduate majors:

1. Early childhood education
2. Child development
3. Family relationships

The early childhood education program requires the student to take CDFR 210, 323, 361, 422, and 492, plus ten hours of electives in the department in order to complete the 25 hours required in this major for graduation. The student also completes the education requirements for teacher certification at the elementary level. A complete program worksheet is available at the department office (203 SFLC).

The child development option requires the following sequence of courses: CDFR 210, 323, 422, 410, and 492. To graduate the student must have a minimum of 25 hours in the department, allowing at least ten hours of electives. The following courses are suggested electives for this option: CDFR 305, 312, 360, 361, 450, and 570. Advisers will suggest courses in other departments pertinent to this option and to the student's interests.

The family relationships option requires the following sequence of courses: CDFR 360, 361, 460, 492, and FEHM 351. As a minimum of 25 hours are required for graduation, the student may elect at least 11 hours of CDFR courses. Suggested electives for this option are CDFR 210, 261, 440, 450, 461, and 570.

Graduate Program

Training leading to the Master of Science degree is offered in two specialized fields: (1) child development, with a possible additional emphasis in early childhood education, and (2) family relationships, with possible additional emphases in family life education and in marriage and family counseling. The Ph.D. degree is offered in three specialized fields: (1) child development, (2) family relationships, and (3) marriage and family counseling. For information concerning these programs, consult the graduate program coordinator, Department of Child Development and Family Relationships, 233-C SFLC, Brigham Young University, Provo, Utah 84601.

Courses

210. Child Development. (3:3:1) F.S.Su. (G-SS m)

Consideration of the growth and development of the child and his relationships with his family, peers, and teachers from infancy through adolescence. One hour observation per week as part of preparation.

261. The Latter-day Saint Family. (2:2:0) F.S.Su. (m)

Place of the family in LDS doctrine and philosophy, together with application of basic religious principles to marriage and family relationships. A comparison of LDS and non-LDS families in time and space.

305. Development in Infancy. (3:2:2) F.S. (m) Prerequisite: CDFR 210. Larsen

The physical, cognitive, and social developmental characteristics during the first 18 months, with implications for guidance and care in the family unit.

312. Principles of Child Guidance. (2:2:0) F.S. (m) Prerequisite: CDFR 210.

Larsen

Application of knowledge and understanding of child behavior and psychodynamics of family interaction to guidance of children. Behavior and guidance principles are studied directly in the human development laboratories. Helpful to parents and prospective parents.

322. Creative Experiences with Children. (3:2:6) F.S.Su. (m) Prerequisite: CDFR 210; application one semester in advance required.

Tyndall

Designed to promote increased self-understanding, develop skills in working with children, and gain experiences in the use of creative play materials through participation in the human development laboratories. Lab fee required.

323. Organization and Planning for Preschool Programs. (3:3:0) F.S.Su. (m) Prerequisite: CDFR 210; application required semester in advance.

Barlow, Taylor

Consideration of factors involved in the development of preschool programs. Study of essential procedures in preschool planning, including housing, curriculum, equipment, guidance, health protection, and food service. Field trip.

360. Achieving Success in Marriage. (3:3:0) F.S.Su. (G-SS m)

Consideration of maturity, love, compatibility, conflict, specific areas of adjustment in marriage, parent-child relationships, and effective management of family resources.

361. Family Relationships. (3:3:0) F.S.Su. (G-SS m)

Consideration of the interaction and interpersonal relations through the various stages of the family life cycle, and the influence of the family on its members in developing values, goals, attitudes, and patterns of behavior.

410. Advanced Child Development. (3:2:2) F.S.Su. (m) Prerequisites: CDFR 210, 361; Psych. 111 or Sociol. 111.

Knowles, Rollins, Vance

Physiological, intellectual, social, and emotional development of the preschool and school-age child. Two hours' observation and discussion of preschool and school-age children required each week.

422. Methods and Teaching Experiences in the Human Development Laboratory. (4:2:8) F.S.Su. Application is required semester in advance.

Experience in teaching and supervising a group of nursery school children. Lab fee required.

440. Family Life in the Middle and Later Years. (2:2:0) (m) S.Su. Prerequisite: CDFR 361.

Cannon, Knowles

Adjustments in middle and later years revolving around physical, emotional, and social changes. Emphasis is placed upon needs that arise from changes in family relationships, living arrangements, and employment.

450. Modifying Family Behavior: Principles and Practices. (3:3:0) F.S.Su. Prerequisites: CDFR 210, 361, or consent of instructor.

Allred, Mead

Study of principles and practices in altering disturbing behavior patterns of children within the framework of the family. Observations of family counseling will be provided.

460. Marriage and Family Interaction. (3:3:0) (m) F.S.Su. Prerequisites: CDFR 360, 361; Sociol. 111 or Psych. 111.

Cannon, Moss

An advanced appraisal of courtship, marriage relationships, and family interaction. A professional course designed primarily for majors in CDFR and related fields.

461. The Family and the Law. (3:3:0) S. (m) Prerequisite: CDFR 360 or 361.

Consideration of legal aspects of marriage and family life such as marriage statutes, property rights, separation and divorce, adoption, custody of children, wills, etc.

- 492. Seminar in Theory and Concepts.** (2:2:0) F.S.Su. (m) Cannon, Knowles, Laws, Porter
Evaluation and integration of basic theories and concepts in CDFR. Designed especially for senior students in CDFR.
- 510. Physical and Intellectual Development of Children.** (2:2:0) S.Su. Pre-requisite: CDFR 410, 611. Vance
A systematic survey of current theories and research on physical and intellectual development from conception through adolescence.
- 511. Emotional and Social Development of Children.** (2:2:0) S.Su. Prerequisite: CDFR 410, 611. Rollins
A systematic survey of current theories and research on emotional and social development from conception through adolescence.
- 520. Workshop in Child Development.** (2:2 wks.; 8 hrs./day:0) Su. Prerequisite: consent of department chairman.
Intensive study in the application of principles of child development and child guidance.
- 550R. Workshop in Marriage and Family Counseling.** (1-2:1-2 wks.; 8 hrs./day:0 ea.) Su. Prerequisites: completion of 8 hours in CDFR or consent of department chairman.
Intensive study in the application of principles of marriage and family counseling.
- 560. Workshop in Family Relationships.** (2:2 wks.; 8 hrs./day:0) Su. Prerequisite: consent of department chairman.
Intensive study in the application of principles of family relationships.
- 566. Materials and Procedures in Family Life Education.** (2:2:0) Su. Pre-requisite: consent of instructor. Moss
An evaluation of materials, resources, and procedures in teaching family life education in the high school.
- 570. Community and Professional Responsibilities to Children and Families.** (2:2:0) S.Su. Prerequisite: CDFR 410 or 460. Knowles, Moss
Acquaintance with resources of the community as they relate to the welfare of children and families. A consideration of the responsibilities of professional persons working with children and families.
- 575. Parent Education.** (2:2:0) F.Su. Prerequisite: CDFR 410 or 460. Knowles
Basic principles in organization of parent study programs. Formulation and presentation of program for parents.
- 580. Introduction to Marriage and Family Counseling.** (3:3:0) F.S.Su. Prerequisite: CDFR 460. Recommended: CDFR 461. Allred, Laws, Mead
Theories and techniques used in marriage and family counseling. Consideration of individual and group counseling as it pertains to the family.
- 590. Readings in Child Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Prerequisites: consent of instructor and CDFR 410 or 460.
Discussions and reports of current readings in this field.
- 595. Special Topics in Child Development and Family Relationships.** (1-2:1-2:0) F.S.Su. Prerequisites: consent of instructor and CDFR 410 or 460.
Individual study for qualified students majoring in child development and family relationships upon consultation with the instructor and the chairman of the department.
- 596. Research Problems and Methods in Family Relationships.** (2:2:0) S.Su. Prerequisite: CDFR 460. Rollins
Analysis of strategic research areas in family relationships and research methods pertinent to their exploration. Students will formulate a research project.
- 597. Research Problems and Methods in Child Development.** (2:2:0) S.Su. Prerequisite: CDFR 410, 611. Vance
Analysis of strategic research areas in child development, and research methods pertinent to their exploration. Student will formulate a research project.

- 611. Current Concepts and Research in Child Development.** (2:2:0) F.Su. Pre-requisite: CDFR 410. Price
An intensive investigation of theoretical frameworks models, and concepts of dominant contemporary theorists in child development.
- 616. Measurement Techniques in Child Development.** (2:2:1) Su. Prerequisites: CDFR 410, 510; Psych. 450. Vance
- 623. Curriculum Development in Preschool Education.** (2:2:2) F.Su. Prerequisites: CDFR 323, 422; Ed. 301. Vance
Comparison and evaluation of various preschool curricula; examination of research in preschool curricula; application of preschool curricular innovations; application of criterion tests related to various preschool curricula.
- 650. Practicum in Family Counseling.** (3:2:2-4) F.S.Su. Prerequisites: consent of instructor and CDFR 450, 580. Allred, Mead
Development of skills in family counseling techniques. Experience in the organization and administration of family counseling centers.
- 660. Dynamics of Parent-Child Interaction.** (2:1:2) F.Su. Rollins
Development and testing of conceptual models of parent-child interaction.
- 661. Dynamics of Family Interaction.** (2:2:0) S.Su. Prerequisites: CDFR 360, 460. Moss
- 662. Dynamics of Marital Interaction.** (2:2:0) F.Su. Prerequisite: CDFR 460. Rollins
Systematic study of the research and theory of man-woman relationships in marriage.
- 663. Critical Problems in Family Life.** (2:2:0) S.Su. Prerequisite: CDFR 361. Cannon
- 664. Current Concepts and Research in Family Relationships.** (2:2:0) F.Su. Burr
- 667. Problems of Teaching Marriage and Family Relationships in College.** (2:2:0) Su. Cannon, Laws, Moss
- 680. Practicum in Marriage Counseling.** (4:1:6) F.S.Su. Prerequisites: CDFR 580; consent of instructor.
Supervised marriage counseling field experience and sensitivity training are included.
- 685. Developmental Use of Play Experiences.** (2:2:0) Su. Prerequisite: consent of instructor.
- 692R. Seminar in Family Relationships.** (1-2:1-2:0 ea.) F.S.
- 693R. Seminar in Child Development.** (1-2:1-2:0 ea.) F.S.
- 697. Independent Research.** (1-3:1-3:0) F.S.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
- 750. Advanced Practicum in Family Counseling.** (4:1:6-10) F.S.Su. Prerequisites: consent of instructor, and CDFR 650, 780. Allred, Mead
Independent counseling experiences within the scope and purpose of family counseling centers. The student serves as a senior counselor.
- 760. Concepts and Theories of Marriage and the Family.** (3:3:0) F. Burr, Moss
Rollins
- 780. Advanced Theories of Marriage and Family Counseling.** (3:3:0) F. Prerequisites: CDFR 580; consent of instructor. Allred, Laws, Mead
- 785, 786. Advanced Practicum in Marriage Counseling.** (4:1:6-10 ea.) FS. Prerequisites: CDFR 780; consent of instructor. Allred, Laws, Mead
- 792R. Seminar in Family Relationships.** (1-2:1-2:0 ea.) F.S.
- 793R. Seminar in Marriage and Family Counseling.** (1-2:1-2:0 ea.) F.S.
- 794. Special Topics in Child Development.** (1-2:1-2:0) F.S.Su.
- 795. Special Topics in Family Relationships.** (1-2:1-2:0) F.S.Su.
- 799. Dissertation for the Ph.D. Degree.** (Arr.) F.S.Su.

Civil Engineering Science

Professors: Firmage (chairman, 107 ELB), C. Barton, J. Barton, Enke, Fuhrman, Rollins.

Associate Professors: Budge, Christiansen, Karen, Wilkes.

Assistant Professors: Calder, Goodwin, Naylor, Wilson, Thurgood.



The Department of Civil Engineering Science offers professional programs leading to the degrees of Bachelor of Engineering Science in civil engineering, Master of Civil Engineering, and Master of Science. For details concerning programs for graduate study leading to the M.S., M.E., and Ph.D. degrees in civil engineering, students should consult the Graduate School Catalog. The curriculum is accredited by the Engineers Council for Professional Development (ECPD) as a professional engineering curriculum.

Course work is offered in the areas of solid mechanics and materials, soil mechanics and foundation engineering, structural mechanics and structural engineering, highway and transportation engineering, and water resources, including hydrology, hydraulics, and sanitary engineering. The professional education at BYU emphasizes a strong science foundation in physics, chemistry, and mathematics. Application of mathematics is found early in the program through a correlation with physics beginning in the freshman year. An understanding of civil engineering problems on an elementary but fundamental level is afforded the student in the freshman and sophomore years. The student is also provided with a well-balanced program of social studies, religion, biological sciences, and humanities.

The extensive background of the faculty will prove valuable to those who wish to undertake special projects in their undergraduate work or research topics in their graduate work. Seminar work and participation in technical meetings sponsored by student organizations provide a rich beginning to a career in civil engineering. Professional opportunities upon graduation in this field exist in research and development, design, construction, sales engineering, teaching, business management, and many other divisions.

Entrance Requirements

For both the general entrance requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences, see those sections of this catalog.

Grade Requirements

To receive the BES degree in civil engineering, a student must complete courses satisfying University and departmental requirements including a minimum cumulative grade-point average of 2.0 (C). A cumulative average grade of "C" or better must be maintained in all advanced mathematics and engineering subjects; otherwise, the student is placed on probationary status in the department. No more than nine hours of "D" credit in engineering subjects will be counted toward graduation. A student must receive an average of "C" or better in each area of chemistry, mathematics, and physics.

General Education Requirements

Engineering science students are subject to all of the general education requirements listed in this catalog, with the following exceptions and suggestions:

- (1) The biological science requirement may be reduced to four semester hours instead of the six semester hours specified. Civil engineers will meet the biological sciences required by taking Micro. 121 and 381.
- (2) Maximum advantage should be taken of the four hours of religion credit given for attending devotional assemblies for a period of four years.
- (3) It is particularly recommended that the student take Econ. 101, Psych. 111, or Sociol. 111 in satisfying the social science group requirements.

Requirements for Bachelor of Engineering Science Degree

The student first enrolls in the general curriculum of civil engineering and continues in a prescribed technical program for three years. In the fourth year, he has the opportunity of selecting technical electives to strengthen a chosen field of interest. Also in the fourth year, the student may elect to begin study for the Master of Science or Master of Engineering degree.

All students must satisfy the general education requirements of the University and the departmental requirements, including 15 hours of technical electives, in order to earn the BES degree. This will normally take the student five academic years to complete. The departmental course requirements are given in the technical flow chart herein. This chart also indicates the technical prerequisite requirements for each course. Single connecting lines indicate prerequisites, and double connecting lines indicate corequisites. A typical sequence of courses for the standard five-year program is also given herein.

The student who is well prepared in high school in graphics and mathematics may begin these programs with C.E. 102 and Math. 112, respectively. If not sufficiently prepared, the student must take C.E. 101 and Math. 111 as beginning courses. It is recommended that the student take Hist. 170 by examination.

Engineering students may register for 18 hours, exclusive of physical education, forum, and devotional, in any one semester without obtaining special permission.

Typical Civil Engineering Bachelor of Engineering Science Program

First Year					
	F	S			
Engl. 111, 112	3	3	C.E. 321		3
Math. 112, 113	4	4	M.E. 321; C.E. 332	3	3
Physics 121, 122	3	3	Relig.	2	
C.E. 100; Hist. 170	1	3	Dev. Assy. 301, 302	$\frac{1}{2}$	$\frac{1}{2}$
C.E. 103	3		Math. 322; C.E. 305	3	3
Dev. Assy. 101, 102	$\frac{1}{2}$	$\frac{1}{2}$		15 $\frac{1}{2}$	16 $\frac{1}{2}$
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Fourth Year		
Relig.	2	2		F	S
	17	16	Micro. 121, 381	3	2
Second Year			Geol. 330; C.E. 341	3	3
	F	S	Gen. ed.	3	3
Math. 214, 321	3	3	C.E. 431, 432	3	2
Physics 221; Stat. 332....	4	2	Dev. Assy. 401, 402	$\frac{1}{2}$	$\frac{1}{2}$
C.E. 211, 212	2	2	Tech. electives	3	3
C.E. 200, 201	1	2		15 $\frac{1}{2}$	13 $\frac{1}{2}$
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Fifth Year		
Dev. Assy. 201, 202	$\frac{1}{2}$	$\frac{1}{2}$		F	S
Relig.	2	4	C.E. 571		3
Gen. ed.; Health 130	3	2	C.E. 423, 424	3	2
	16	16	Engl. 316	2	
Third Year			E.E. 301, 302	2	2
	F	S	Tech. electives	6	3
C.E. 303, 304	3	3	C.E. 491A,B	$\frac{1}{2}$	$\frac{1}{2}$
Chem. 105, 106	4	4	Gen. ed.; C.E. 461	2	3
				15 $\frac{1}{2}$	13 $\frac{1}{2}$

Fifteen credits of technical electives may be selected from 400- or 500- level courses in civil engineering. Courses in other departments may be taken for the technical elective requirement if approved by the Department of Civil Engineering Science.

A B.S. degree can be obtained with a major in civil engineering by eliminating the following courses in the BES program. This degree is recommended for those continuing on with a master's-degree program, but not recommended for students desiring to become professional engineers.

Stat. 332	(2)	Engl. 316	(2)
M.E. 321	(3)	Tech. electives	(6)
Math. 322	(3)		
			TOTAL 16

Requirements for Master of Science Degree

The master's degree is growing in importance, and greater emphasis is being placed on graduate-level preparation for professional practice, research, and teaching. The Master of Science degree may be earned in three semesters of study beyond the bachelor's degree or in two semesters if the student has integrated some graduate study with the last year of study in his bachelor's program. A student must formally apply for admission to the Graduate School to study for the master's degree. The Graduate School Catalog contains details of the Graduate School requirements. However, basic group requirements of the Department of Civil Engineering Science are shown below for the Master of Science degree.

Master of Science Basic Requirements

Master of Science Basic Requirements			Credit Hrs.
Major technical electives			15
Minor technical electives			9
Thesis			6
Seminar			1
TOTAL			31

The graduate student is required to register for graduate seminar, C.E. 691, each semester that he is a full-time student, for a maximum of one credit hour. This credit, at $\frac{1}{2}$ credit hour per semester, is counted as part of the 31-hour total.

Requirements for Master of Engineering Degree

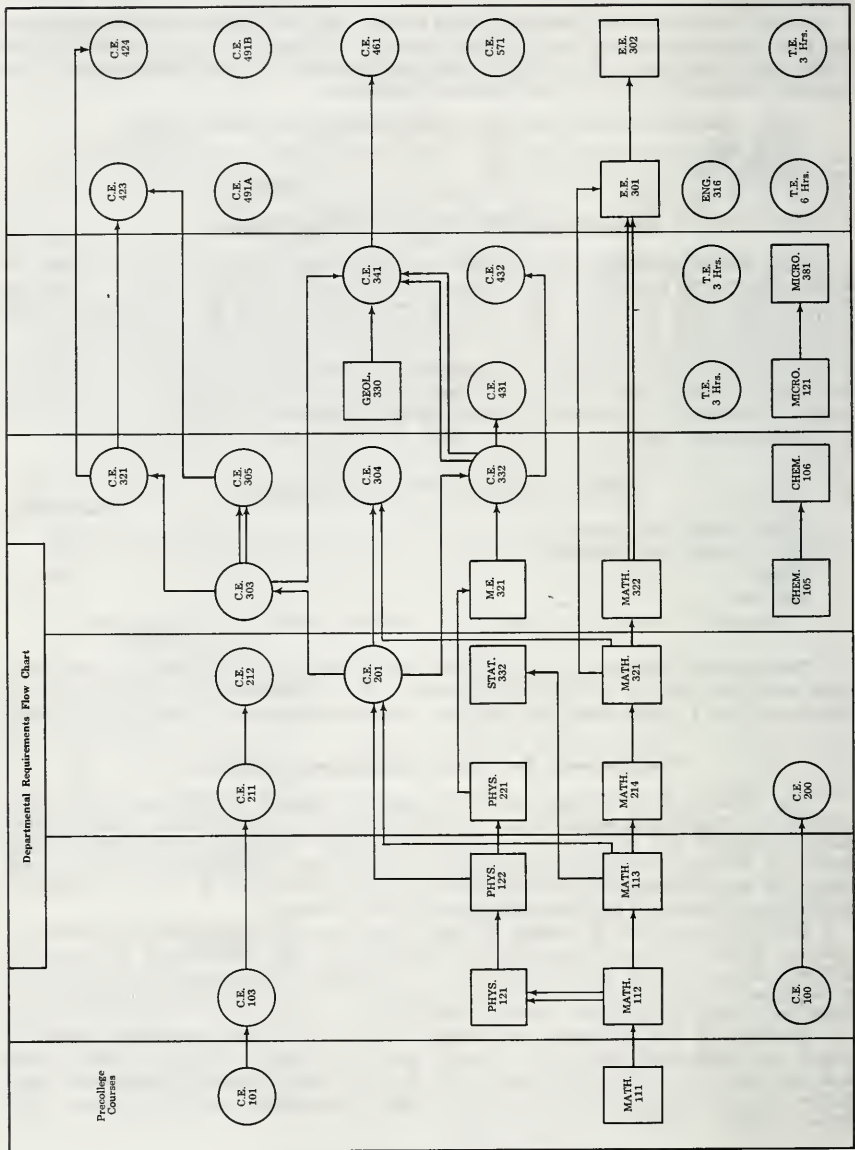
The Master of Civil Engineering degree is designed for students who plan careers in professional engineering practice. However, the program is sufficiently basic to permit the student to continue in further graduate study beyond this degree if desired. Advanced course work in analysis, engineering behavior, and design is supplemented by an engineering study or project so that the student acquires an integrated professionally-oriented experience.

The M.E. program is similar in basic requirements to that of the Master of Science program except for the following: (1) one additional three-credit course, (2) a required engineering study or project of three credit hours. There is no thesis requirement in the M.E. program. The total credit hours for this program are the same as for the M.S. degree.

In each of the graduate programs, M.S. or M.E., the student pursues a course of study and research or design that is tailored to his particular needs and interests by close consultation with his individual faculty adviser and committee. Further study toward the Ph.D. degree is possible upon graduation with either master's degree.

Prearchitecture Curriculum Program

The suggested basic prearchitecture curriculum includes basic courses required by the majority of the eighty schools of architecture in the United States required for admission into the final three-year professional portion of their programs. As the requirements of individual schools vary, it is essential that the



Departmental Requirements Flow Chart

prearchitecture candidate select the schools of architecture into which he or she may transfer as early as possible. Then an individual correlation must be made to be certain that the curriculum taken will meet entrance requirements into the professional portion of the architectural program at the school selected.

As of early 1970, 26 schools of architecture have a six-year architectural program culminating in a Master of Arts degree. The suggested three-year basic prearchitecture curriculum, with minor modifications, will replace the first three years given at each of these schools. The remaining fifty-four schools of architecture currently continuing the five-year B.A.-degree program in architecture appear to be moving toward the six-year M.A. degree. Of the latter group, all contacted to date have indicated willingness to accept a prearchitecture curriculum to replace not less than the first two years of their own five-year program.

A few of the six-year program architectural schools presently require an intermediate four-year bachelor's degree in a rather wide variety of majors, to be completed at their institution after admission into the professional portion of their program.

Consult Glenn L. Enke of the Civil Engineering Science Department for further details.

Suggested Basic Prearchitecture Curriculum

All prearchitecture students are to register in the Department of Civil Engineering Science (275), College of Physical and Engineering Sciences, Code 09.

First Year			
Fall		Spring	
**C.E. 101 or Drafting 111	2.0 or 3.0	Bot. 205	2.0
Art 120 (environ. des. emphasis)	3.0	Art 121 (environ. des. emphasis)	3.0
*Math. 111	5.0	Engl. 112 or Engl. 361	3.0
Engl. 111	3.0	P.E.	0.5
P.E.	0.5	Relig.	2.0
Relig.	2.0	Health	2.0
Dev. assy.	0.5	Drafting 355 (environ. des. emphasis)	3.0
	16.0 or 17.0	Dev. assy.	0.5
			16.0
Second Year			
Fall		Spring	
Hum. 101	3.0	Environ. Des. 201	3.0
Art 308	2.0	Art 309	2.0
Math. 112	4.0	Math. 113	4.0
Physics 121	3.0	Physics 122	3.0
Relig.	2.0	Relig.	2.0
P.E.	0.5	P.E.	0.5
Dev. assy.	0.5	Dev. assy.	0.5
	15.0		15.0
Third Year			
Fall		Spring	
Math. 214	3.0	Art 405	2.0
Physics 221	3.0	Econ. 101	3.0
Environ. Des. 233	3.0	C.E. 201	2.0
Relig.	2.0	Environ. Des. 333	3.0
Dev. assy.	0.5	Relig.	2.0
Micro. 121	3.0	Dev. assy.	0.5
	14.5	Micro. 381	2.0
			14.5

*Mathematics placement test may permit either elimination of Math. 111 or substitution of Math. 105 or 106 to cover algebra or trigonometry deficiencies.

**Graphics placement test may permit elimination of C.E. 101 or Drafting 111.

Either Hist. 170 (The American Heritage), 3 hours, or Hist. 110, 111 (World Civilization I, II), 6 hours, will probably be required by the school of architecture selected. These and other individual courses to satisfy remaining general education requirements, if any, should be added to the above basic curriculum.

Courses

100. **Introduction to Civil Engineering I.** (1:1:0) F.
Introduction to the fields and profession of civil engineering. Study of principles involved in solving engineering problems. Slide rule utilization.
101. **Introduction to Engineering Graphics.** (2:1:4) F.S.Su.
Materials and instruments in engineering drawing, introductory practice in orthographic projection; transfer of pictorial sketches and machine part samples to scaled drawings; lettering; auxiliary projection; dimensioning; sections and conventional practices.
102. **Engineering Graphics I.** (2:1:4) F.S.Su. Prerequisites: Math. 111; C.E. 101; or equivalent.
Graphics principles including three-dimensional space problems with points, lines, and planes; intersections, developments, gears, cams and elementary linkage analysis, and curved and warped surfaces.
103. **Engineering Graphics.** (3:2:3) F.S.Su. Prerequisites: C.E. 101 or equivalent; Math. 112.
Advanced orthographic projection, including three-dimensional space problems, intersections, developments, curved surfaces, graphic statics, graphical mathematics, sliding scales, nomography.
200. **Introduction to Civil Engineering II.** (1:1:0) F.
A continuation of C.E. 100. Design concepts and procedures as related to civil engineering. Project evaluation and synthesis.
201. **Engineering Mechanics Statics.** (2:2:0) F.S.Su. Home Study also. Prerequisite: Physics 122 or equivalent, Math. 113.
Introductory concepts of mechanics: force systems in equilibrium, resultants, friction, centroids, moments of inertia, virtual work.
211. **Elementary Surveying.** (2:1:3) F. Prerequisites: Math. 111; C.E. 102.
Lectures and field work in measurements of distances, angles, and differences of elevation using the usual survey methods and instruments; preparation of notes; surveying calculations; simple traverse; and use of the plane table.
212. **Engineering Surveying.** (2:1:3) S. Prerequisite: C.E. 211 or equivalent.
More advanced concepts in surveying theory, including curve, earthwork, plane coordinate systems, public land surveys, and astronomical observations.
301. **Engineering Mechanics—Statics and Mechanics of Materials.** (3:3:0) Prerequisites: Physics 122 or equivalent; Math. 113.
Force systems, equilibrium laws, centroids and moments of inertia, friction, stresses and deflection in beams, columns, torsion, principal stresses.
303. **Engineering Mechanics—Mechanics of Materials.** (3:2:3) F.S.Su. Home Study also. Prerequisite: C.E. 201.
Fundamental concepts in terms of elastic stress and strain relations; cylinders and spheres, torsion, beam theory including bending stresses, deflections, two-dimensional elastic theory.
304. **Engineering Mechanics—Dynamics.** (3:2:3) F.S.Su. Home Study also. Prerequisites: C.E. 201 or 301.
Concepts of dynamics applied to particles, systems of particles, rigid bodies, vibration systems, nonrigid particles systems. Vector notations used in the treatment of all topics.

305. Properties of Materials. (3:2:3) F.S. Prerequisite: C.E. 303.

Theories and procedure of physical testing of materials; introduction to failure theories and solid-state concept of behavior of materials; the mechanics of deformation.

321. Elementary Structural Theory. (3:3:0) S. Home Study also. Prerequisite: C.E. 201 or C.E. 303 or consent of instructor.

Loads on structures, beams, trusses, influence diagrams, three-dimensional analysis, cable systems, approximate analysis of frames, deflections.

332. Hydraulics and Fluid Flow Theory. (3:3:0) S. Prerequisite: C.E. 201.

A study of fluid properties, fluid statics and dynamics, viscous flow, and boundary layer concepts. Application of theory to pipe and open-channel flow.

341. Elementary Soil Mechanics. (3:2:3) S. Prerequisites: C.E. 303, 332, Geol. 330 or consent of instructor.

Basic physicochemical characteristics of soils. Permeability seepage and associate uplift pressures. Consolidation theory, strength theory and the shearing strengths of sand and clay. Earth pressure theories, slope stability analysis.

391A,B. Civil Engineering Seminar. ($\frac{1}{2}$:1:0 ea.) F.S.

Group discussion of technical and professional activities of the civil engineering profession. Participation by faculty, professional engineers, advanced students, and other invited personnel.

422. Theory of Statistically Indeterminate Structures. (3:3:0) F. Prerequisite: C.E. 321.

Work and energy methods, moment distribution, slope deflection, influence lines.

423. Structural Steel Design. (3:2:3) F. Prerequisites: C.E. 305 and 321.

Theory and design of structural steel and other structural metals using elastic and plastic design concepts. Stress analysis and design of beams, stiffened girders, tension and compression members, and their connections.

424. Reinforced Concrete Design. (2:2:0) S. Prerequisite: C.E. 321.

Theory and design of reinforced concrete elements, including columns, beams, slabs, retaining walls, and footings; elastic and ultimate-strength method of analysis.

431. Hydrology. (3:2:3) F. Prerequisite: C.E. 332.

Water as it occurs in nature; relationships between precipitation, evaporation, infiltration, transpiration, groundwater, and stream runoff.

432. Hydraulic Engineering. (2:2:0) F. Prerequisite: C.E. 332.

Application of the principles of fluid mechanics to the design of hydraulic structures.

442. Foundation Engineering. (3:2:3) Prerequisite: C.E. 341.

Subsurface exploration, bearing capacity concepts, settlement of structures, and basic principles of foundation design.

451. Sanitary Engineering. (3:2:3) S. Prerequisites: C.E. 432; Micro. 381.

Reviewing of public health engineering. Applications to design, construction, and operation of water supply and sewage systems.

461. Highway Engineering. (3:2:3) F. Prerequisite: C.E. 341.

Highway planning economy, finance. Traffic engineering characteristics. Properties of highway materials. Rigid and flexible pavement designs.

491A,B. Civil Engineering Seminar. ($\frac{1}{2}$:1:0 ea.) F.S.

Group discussion of technical and professional activities of the civil engineering profession. Participation by faculty, professional engineers, and other invited personnel. Required of all majors.

- 501. Advanced Mechanics of Materials I.** (3:3:0) (Interdepartmental) Prerequisite: C.E. 303.

Introduction to theories of elasticity, plasticity, and strain energy methods; stresses and strains in beams, curved members, rotating discs, thick cylinders, torsion, and structural members.

- 502. Advanced Properties of Materials I.** (3:3:0) (Interdepartmental) Prerequisite: C.E. 305 or equivalent.

Concepts of mechanics as applied to the behavior of engineering materials under various loading conditions and use including static, creep, fatigue, and impact; stress concentrations; temperature, dislocation theory.

- 503. Applied Elasticity.** (3:3:0) Prerequisites: C.E. 303; Math. 321.

Analysis of stress and strain in two dimensions; equations of equilibrium and compatibility; problems in elasticity; emphasis on applications to machine and structural design.

- 505. Concrete—Its Materials, Uses, and Properties.** (3:2:3) Prerequisite: Geol. 330.

Manufacturing and testing of cements; concrete materials and concrete mix design; techniques of concrete handling, placing, and treatment; laboratory work.

- 507. Experimental Stress Analysis I.** (3:2:3) Prerequisite: C.E. 303.

Principles and techniques of the experimental methods of stress determination and their applications to static engineering problems; includes mechanical and optical gages, brittle lacquers; emphasizes electric strain gages; introduces photoelasticity and photostress techniques.

- 513. Photogrammetry.** (3:2:3) Prerequisite: C.E. 212.

Theory and application of the use of terrestrial and aerial photographs to produce maps; vertical and oblique photography and mapping procedures, stereoscopic viewing and measurements for relative position of objects in three dimensions, photo interpretation, sources of errors.

- 520. Selected Topics in Structural Engineering.** (3:3:0) Prerequisite: B.S. in civil engineering (limited to non-BYU graduates).

Selected topics in mechanics of materials, structural theory for determinate and indeterminate structures, and structural design.

- 527. Stiffness and Flexibility Methods in Structures.** (3:2:3) F.S. Prerequisite: C.E. 422.

Application of matrix algebra, development of the stiffness and flexibility matrices and the application of these methods to statically determinate and indeterminate articulated, frame, and arch structures. Use is made of the digital computer.

- 531. Water Resources Engineering.** (3:2:3) Prerequisites: C.E. 431, 432.

Planning and basic design of hydroelectric, flood control, irrigation, and multipurpose projects involving the utilization of water resources; consideration of hydraulic and hydrologic design elements.

- 543. Physico-Chemical Characteristics of Soils.** (3:3:0) Prerequisites: Chem. 106; C.E. 341.

Physicochemical relationships in soils, including the structures of the clay minerals, properties of the electrical double layer, ion exchange phenomena, and soil moisture movement and equilibria.

- 571. Engineering Ethics, Economics, and Legal Problems.** (3:3:0) S.

Professional, legal, and economic problems of the engineering profession, including contracts, specification writing, and ethics. Case histories are studied as they affect the engineering profession.

- 602. Advanced Properties of Materials II.** (3:3:0) Prerequisite: C.E. 502 or equivalent.

Analysis of stress and finite strains, theories of the mechanism of flow and fracture, theory of dislocation, creep, viscoelastic behavior, non-Newtonian flow, theories of static and dynamic fatigue, thermo cycling, and fretting corrosion.

- 603. Theory of Elasticity.** (3:3:0) Prerequisites: Math. 321, 322, or equivalent.
The mathematical theory of elasticity; analysis of stress and strain; generalized Hooke's Law; uniqueness theorem; special topics in elasticity.
- 615. Structural Dynamics.** (3:3:0) S. Prerequisites: C.E. 304, 527, or equivalent.
Matrix formulation of the free and forced, damped and undamped, lumped parameter, multiple degree-of-freedom, linear systems. Approximate methods for nonlinear damped systems. Applications to elastic forced response of steel frameworks and beams.
- 620. Advanced Structures—Theory and Design.** (3:3:0) Prerequisites: C.E. 423 and 424.
Advanced topics in structural theory and design: arches, frames, continuous structures on elastic supports, plastic design theory.
- 621. Thin Shell Structures.** (3:3:0) Prerequisites: C.E. 422, 424.
Theory and design methods related to domes, arches, solid plate, and hyper structures.
- 622. Design of Bridge Structures.** (3:2:3) F. Prerequisites: C.E. 341, 422, 423, 424.
Design of bridge structures; floor systems, composite and continuous beams and girders, trusses, piers, and abutments.
- 623. Prestressed Concrete.** (3:3:0) Prerequisites: C.E. 422, 424.
Basic theory of prestressed concrete, pre- and post-tensioning methods. Details of design and fabrication, applications to continuous structures.
- 625. Design of Multi-Story Structures.** (3:2:3) S. Prerequisites: C.E. 341, 422, 423, 424, or consent of instructor.
Building code design criteria; dead and live loads; dynamic response to seismic and wind forces; shear wall theory and design. Analysis and design of floors, columns, frames, walls, and foundations using elastic and plastic methods.
- 632. Advanced Hydrology.** (3:3:0) Prerequisites: C.E. 431, 432 or equivalent.
Theory and application of advanced hydrologic principles to engineering design and investigations.
- 633. Hydraulic Design of Water Control Structures.** (3:3:0) Prerequisite: C.E. 432.
Hydraulic and structural design of dams and appurtenant works and other water control structures.
- 634. Flow in Open Channels.** (3:3:0) Prerequisite: C.E. 332.
The theory of flows in artificial and natural open channels, and the application of that theory to practical problems.
- 641. Advanced Soil Mechanics.** (3:3:0) Prerequisites: C.E. 341, 442, or equivalent.
Advanced topics in soil mechanics including stress distribution in earth masses, the shearing strength of soils, consolidation theory, settlement analysis, stability of slopes, and the bearing capacity of soils.
- 642. Advanced Soil Mechanics Laboratory.** (2:0:6) Prerequisites: C.E. 341, 442, 641, or equivalent.
Advanced study in the techniques of laboratory investigations of soils.
- 643. Earth and Rock Fill Structures.** (3:3:0) Prerequisite: C.E. 341 or equivalent.
Aspects associated with the design and construction of earth and rock fill dams including geological study and erection of damsites, location and selection of materials, seepage and pore pressure studies, interpretation of shearing strength data, stability analysis, and construction controls.
- 644. Advanced Foundation Engineering.** (3:3:0) Prerequisite: C.E. 641.
Applied course in foundation engineering, including techniques of sub-surface investigation, determination of the allowable soil pressures for footings, and the design of spread footings, raft foundation, and pile foundation for structures on clays, silts, and sand.

645. Structural Foundations. (3:3:0) Prerequisites C.E. 442, 443, or equivalent.
An applied course in the structural design of foundations, with special emphasis on pertinent aspects of soil mechanics. Foundation types will include spread footings, combined footings, raft foundations, retaining structures, driven piles, drilled piles, caissons, and cofferdams.

652. Design of Water Treatment Works. (3:3:0) Prerequisites: C.E. 451; Chem. 223; Micro. 381; or equivalent.
Theory and practice of water purification and treatment for culinary, municipal, and industrial uses.

653. Design of Sewage Treatment Works. (3:3:0) Prerequisites: C.E. 451; Chem. 223; Micro. 381; or equivalent.
Theory and practice in the design of sewage disposal and treatment works.

654. Industrial Waste Treatment. (3:3:0) Prerequisites: C.E. 451; Chem. 223; Micro. 381; or equivalent.
Theory and practice in the treatment and disposal of industrial wastes; studies of basic industries and their waste problems.

655. Sanitary Engineering Analysis. (3:1:6) Prerequisites: C.E. 451; Chem. 223; Micro. 381; or equivalent.
Analytical techniques involved in the chemical and biological analysis of the major inorganic and organic constituents of water, sewage, and industrial wastes.

661. Traffic Engineering—Theory of Flow and Geometric Design. (3:3:0) F. Prerequisite: C.E. 461 or equivalent.
Analysis of the basic characteristics of motor-vehicle traffic. The theory of traffic flow. Freeway operations and traffic regulations. Design of highways and parking facilities, including freeways and expressways, arterials, at-grade intersections, interchanges, channelizations, parking lots, and garages.

663. Pavement Design. (3:3:0) S. Prerequisite: C.E. 461 or equivalent.
Properties of pavement components, including soils, stabilized soil, base, subbase, subgrade, and bituminous materials. Design of rigid and flexible pavements. Pavement evaluation and strengthening. Materials selection and evaluation.

691A,B,C,D. Civil Engineering Seminar. ($\frac{1}{2}$:1:0 ea.) F.S.

694. Selected Problems in Civil Engineering. (1-3:Arr.:Arr.)

697. Research in Civil Engineering. (2:Arr.:Arr.) F.S.

698. Engineering Projects. (3:Arr.:Arr.) Prerequisite: registration in M.E. program.
Investigation, study, and presentation of a technical engineering report in an area of civil engineering. The project must be approved by the graduate committee.

699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.

791A,B,C,D. Seminar for Doctoral Students. (1:1:0 ea.)

794. Selected Topics in Civil Engineering. (1-3:Arr.:Arr.)

797. Research for Doctoral Students. (Arr.)

799. Dissertation for Doctoral Students. (Arr.)

Clothing and Textiles

Associate Professors: Domigan, Jorgensen
(chairman, 3256 SFLC).

Assistant Professors: Childs, Lee, Liechty.

Instructors: Domgaard, Lind.



The clothing and textiles curriculum is designed to help the student understand clothing as it relates to the needs of individuals and families and to provide training in the apparel and textile industries. A knowledge of textiles is emphasized as an aid to wise selection and effective use and care of clothes. Expression of creative abilities is encouraged in the designing, selection, and construction of clothing.

Careers open to majors in this field vary with individual aptitudes and experience and with the choice of appropriate courses from allied departments. Professional opportunities are found in demonstration work, dress designing, dressmaking, fashion illustration, fashion merchandising, fashion promotion, garment manufacturing, institutional purchasing, textile designing, textile promotion, textile testing, and theater costuming. Students are prepared for graduate study which can lead to positions in the fields of college teaching, research, and extension services.

Majors are required to complete a minimum of 26 or more credit hours in the Clothing and Textiles Department, and are encouraged to take at least one course in each of the supporting departments within the College of Family Living: Child Development and Family Relationships, Food Science and Nutrition, Environmental Design, and Family Economics and Home Management. Students will also complete general education requirements as prescribed by the University. For graduation with a Bachelor of Arts degree, 8-12 hours of foreign language are required; for graduation with a Bachelor of Science degree, 6 hours of science are needed in addition to the general education science requirements. It is hoped that the language or science courses for these two degrees will be taken during the first two years.

Transfer students should complete at least 10 credit hours of work in this department to qualify for graduation.

In order to graduate, a student must maintain an overall GPA of at least 2.0, with no hours of "D" credit in the major department.

Campus Couture, sponsored by the department, provides opportunity for practical experience in designing and constructing garments for others. Majors are strongly advised to seek employment at Campus Couture for at least one semester. Employees are selected on the basis of their performance in clothing construction and design classes, and successful completion of Clo. and Text. 365.

Minor Requirements

Students who choose clothing and textiles for their minor field of study must complete 14 credit hours, with at least one course in three of the following four areas:

Construction: Clo. and Text. 165, 235, 355, 365, 520R, 595

Design and Selection: Clo. and Text. 110, 221, 300, 345, 350

History and Economics: Clo. and Text. 330, 430, 472, 473, 474, 478

Textiles: Clo. and Text. 260, 360, 490, 580, 594

Four options are included in the clothing and textiles major aimed at providing background and training for particular professional opportunities.

Option 1—Fashion Merchandising

The course work offered in this area is designed to provide specialized training for those seeking positions such as buyer, assistant buyer, comparison shopper, fashion coordinator, and fashion promotion work.

Students electing this program are required to take the following:

Biol. Sci. (6)	Choice of Micro. 121; Bot. 101; Zool. 105
Phys. Sci. (6)	Chem. 100; Physics 177
Soc. Sci. (9)	Econ. 111, 112; Psych. 111
Hum. (6)	Commun. 101; Speech and Dram. Arts 102; plus 2 hours elective
B.S. (6)	Phil. 101; plus 4 hours to fill Bachelor of Science requirement
Clo. and Text. (26)	Clo. and Text. 110, 165, 260, 472, 473, 474, 490; plus clothing and textiles electives to total 9 hours
Acctg. (6)	Acctg. 201, 202
Bus. Mgt. (9)	Bus. Mgt. 241, 256, 321

Approximately 25 credit hours are allowed for electives, which includes at least one course in each of the other departments within the College of Family Living.

Option 2—Fashion Design

The following program is planned for students interested in apparel or theatrical costume designing.

Biol. Sci. (6)	Choice of Micro. 121; Bot. 101; Zool. 105
Phys. Sci. (6)	Chem. 100; Physics 177
Soc. Sci. (6)	Econ. 101 or 111; Psych. 111
Hum. (6)	Art 301; plus 3 additional hours
B.S. or B.A. (6)	See Page 22
Clo. and Text. (28)	Clo. and Text. 110, 165, 260, 330, 345, 350, 355, 365, 490; plus 6-8 hours clothing and textiles electives. (Recommended: 221, 235, 300, 430, 472)
Art (14)	for apparel design—Art 120, 121, 122, 343, 362; plus electives
or Speech and Dram. Arts (14)	for theatrical design—Speech and Dram. Arts 102, 123, 126, 319, 362, 460, 461, 564, 565

Select any electives to complete a total of 128 hours, including at least one course in each of the other departments within the College of Family Living.

Option 3—Clothing and Textiles and Communications

The following program is recommended for students who are interested in some phase of promotion, such as advertising, copy writing, fashion reporting.

Biol. Sci. (6)	Choice of Micro. 121; Bot. 101; Zool. 105
Phys. Sci. (6)	Chem. 100; Physics 177
Soc. Sci. (6)	Choice of Sociol. 111; Econ. 101; Psych. 111
Hum. (6)	Commun. 101; Speech and Dram. Arts 102; Art 301
B.A. (6)	Foreign language recommended, particularly French
Clo. and Text. (26)	Clo. and Text. 110, 165, 260, 330, 360, 430, 472, 490, plus clothing and textiles electives
Commun. (14)	Commun. 201, 211, 230, 255, 331; plus electives to total at least 14 hours

Electives may be selected to complete a total of 128 hours, including at least one course in each of the departments with the College of Family Living.

Option 4—General Clothing and Textiles

The general clothing and textiles concentration provides training for positions such as consultants with commercial companies; teaching in stores and trade schools; extension services; and custom dressmaking.

Required courses are as follows:

Biol. Sci. (6)	Choice of Micro. 121; Bot. 101; Zool. 105
Phys. Sci. (6)	Chem. 100; Physics 177
Soc. Sci. (6)	Econ. 111; Psych. 111
Hum. (6)	Choice of Art 110, 301; English literature
B.S. or B.A. (6)	See Page 22
Clo. and Text. (28)	Clo. and Text. 110, 165, 260, 235, 300, 330, 350, 355, 365, 490. (Recommended courses: 345, 360, 430, 472, 474)

Select electives to complete a total of 128 hours, including at least one course in each of the other departments within the College of Family Living. Some electives might include Anthropol. 101; Bus. Mgt. 241 or 256; Speech and Dram. Arts 115; Commun. 101.

Courses**105. Elementary Clothing Construction. (1:1:2) F.S.**

Unit method of clothing construction applied to simply-designed cotton apparel. A service course for nonmajors with little or no sewing experience.

110. Selection and Care. (2:2:1) (m)

Lind

Design elements related to apparel selection; principles of wardrobe planning and care; personal analysis for self-improvement. Open to men and women students.

165. Dress and Pattern Construction. (4:2:8) F.S. (m)

Childs, Domigan,
Domgaard, Lee, Lind

Principles of flat pattern design, fitting, and clothing construction applied to a tailored dress and an afternoon or evening dress.

221. Weaving. (2:1:3) F.S.

Lind

Creative design applied in weaving methods. Survey of hand-woven fabrics in various world cultures.

235. Children's Clothing. (2:1:3) F.S. (m) Prerequisite: Clo. and Text. 165.

Domgaard, Lee, Lind

Selection, design, and construction of children's clothing as related to the child's developmental needs.

260. General Textiles. (3:3:1) F.S. (m)

Childs, Domigan, Lee

Natural and synthetic textile fibers; yarns, fabric construction, dyes, and finishes; considerations in the purchase, use, and care of textile fabrics. Open to men and women.

300. Clothing the Family. (2:2:0) F.S. (m) Prerequisites: at least 3 hours in social sciences or one class in CDFR.

Childs, Lee

Physical, social, and psychological needs related to clothing for family members at the various age levels. Coordinating family resources to solve the clothing problems of families. Open to men and women.

330. History of Costume. (3:3:0) F.S. (m) Prerequisite: some work in economics, sociology, or history.

Jorgensen

Social, economic, and political influences on dress through the ages. Analysis of costume as an expression of the life of the people and as a basis for interpreting modern fashions. Open to men and women.

345. Draping and Flat Pattern Design. (3:2:4) F.S. (m) Prerequisites: Clo. and Text. 110, 165, 260. Recommended: Clo. and Text. 330.

Liechty

Creative design achieved through techniques of flat pattern and draping on an individualized dress form.

- 350. Apparel Design.** (2:2:2) S. (m) Prerequisites: Clo. and Text. 110, 165, 330, 345. Liechty
Creative experiences in designing apparel for different production processes and price levels. Resources for inspiration explored.
- 355. Tailoring.** (3:3:3) F.S.Su. (m) Prerequisites: Clo. and Text. 165, 260. Recommended: Clo. and Text. 345. Domgaard, Jorgensen, Liechty
Custom and commercial tailoring techniques applied to constructing a coat and suit.
- 360. Intermediate Textiles.** (3:2:2) F. Prerequisites: Clo. and Text. 260; Chem. 100 or 151. Domigan
Recent developments in textiles. Performance testing of textiles by standard test procedures.
- 365. Couture and Mass Production Techniques.** (2:1:4) F.S. Prerequisites: Clo. and Text. 345 or 355. Liechty
Adapting apparel design and construction techniques to couture and mass production methods. Scheduled laboratory experience with Campus Couture.
- 430. Historic Textiles.** (3:3:0) S. (m) Prerequisite: Clo. and Text. 260. Liechty
History of the design and production of fabrics as an expression of man's cultural achievement. Open to men and women.
- 472. Fashion Industry.** (2:2:0) F.S. (m) Prerequisites: 9 hours in clothing and textiles; Econ. 101. Jorgensen
Development of the fashion movement—its relation to manufacturing and consumption of clothing. Garment production, fashion designers, fashion cycles, and trade organizations. Open to men and women.
- 473. Clothing and Textiles Merchandising I.** (3:3:0) F. Prerequisites: Clo. and Text. 260, 472; Acctg. 201; Bus. Mgt. 247.
The processes involved in planning and operating the merchandising division in fashion retail stores.
- 474. Clothing and Textiles Merchandising II.** (2:2:0) S. Prerequisite: Clo. and Text. 473. Recommended: Clo. and Text. 110, 165, 300, 360. Childs
Problems and aids in buying and selling household textiles, fashion apparel, and accessories from a retail store buyer's point of view. Quality comparison of products.
- 478. Merchandising Practicum.** (3:1:8) S. Prerequisites: Clo. and Text. 474; consent of instructor.
Field service training in the merchandising division of a department store.
- 490. Seminar.** (1:1:0) F.S. Prerequisites: 12 credit hours in major and consent of instructor.
Special reports and readings in clothing and textiles.
- 520R. Workshop in Clothing and Textiles.** (1-3:Arr.:Arr. ea.) Su. Prerequisite: consent of instructor.
- 580. Advanced Textiles.** (3:3:2) S. (m) Prerequisites: Clo. and Text. 360; Chem. 151 or equivalent; Bot. 101 or Zool. 105.
Fiber structure and properties, finishes and care as they affect fabric performance.
- 594. Special Problems.** (1-2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and consent of instructor.
Individual study in special areas of interest related to textiles or some behavioral aspects of clothing.
- 595. Problems in Construction.** (1-2:Arr.:Arr.) F.S. Prerequisites: 15 semester hours in clothing and textiles and consent of instructor.
Individual study in special areas of interest related to clothing construction.

Communications

Professors: Bradley, Rich, Smith, Wolsey.

Associate Professors: Barrus, Burnett, Haroldsen, J. M. Richards (chairman, F-506 HFAC).

Assistant Professors: Butterworth, Fairbanks, R. I. Goodman, McKinlay, Tarbox, Williams.

Instructors: W. Barrus, DeMann.

Special Instructors: S. J. Anderson, Duncan, Evans, Glade, Hampton, Hindmarsh McLean, Olsen, Paul, Peek, Stott, Stum, J. Walker, Welti, S. Whitaker.



The professional program in communications includes a broad base of general education, thorough orientation in the processes, functions, and responsibilities of mass communication, and the development of skills in fact finding, analysis, and communication through the mass media.

The department also provides service courses to help students from other departments develop desired communication skills and, in addition, offers the following general education course in the field of humanities and fine arts: Commun. 101, Introduction to Mass Communication.

Undergraduate concentrations leading to the degree of Bachelor of Arts are offered in the following areas: advertising, journalism, journalism education, and broadcasting. Courses are also offered in photocommunication and for a photography technology specialization in the two-year program of the College of Industrial and Technical Education.

Graduate studies are offered leading to the degree of Master of Arts in communications. Graduate students should consult the Graduate School section of this catalog or the Graduate School Catalog.

General Education

See General Education Program in the Student Academic Services section of this catalog for courses which may be taken to fill prescribed areas in general education requirements for graduation. All majors are expected to take Physics 177, Physics of Light and Photography, as part of the general education requirement in physical science.

Communications majors are advised to obtain a broad background in the fine arts, humanities, and social sciences. Study of a foreign language for two years or more is recommended.

In filling the general education requirement in American history and government, majors must take Pol. Sci. 110 and either Hist. 121 or Econ. 274, six semester hours. One of these combinations of courses will serve in place of Hist. 170.

Departmental Core Curriculum

Students seeking the Bachelor of Arts degree in communications will complete eighteen hours of credit in the departmental core curriculum and a minimum of fourteen hours of credit in one of the following concentrations: advertising, journalism, or broadcasting. The following are the core courses in communications:

Commun. 101.	Introduction to Mass Communication	2 hours
Commun. 201.	The Communications Process	2
Commun. 211.	News Writing	3
Commun. 230.	Introduction to Advertising	2
Commun. 255.	Introduction to Broadcasting	2
Commun. 307.	Communications Law	3

Commun. 480.	Senior Seminar	3
Commun. 491R.	Communications Symposium	1
		<hr/> 18 hours

In addition to the Communications core above, all majors must take the following supporting courses:

Hist. 121.	The United States Since 1865, or	
Econ. 274.	Economic History of the United States	3 hours
Pol. Sci. 110.	American Political Systems	3
Statistics (one course from the following):		
Sociol. 220.	Applied Social Statistics	3
Sociol. 320.	Social Statistics	3
Sociol. 524.	Advanced Social Statistics	3
Stat. 221.	Principles of Statistics	3
Ed. 552.	Statistical Methods	2
Psych. 370.	Elementary Psychological Statistics	4
Sociol. 350.	Introduction to Social Psychology	3
LIS 111.	Use of Books and Libraries	1
		<hr/> 13 to 15 hours

The courses listed here are basic requirements for all majors intending to obtain the Bachelor of Arts degree in communications. Requirements for completion of the major in a particular sequence are contained under the headings Advertising Sequence, Broadcasting Sequence, and Journalism Sequence. See below:

Advertising Sequence

All candidates for the degree of Bachelor of Arts in communications, with an emphasis in advertising and public relations, must complete 32 semester hours in communications, including the department core, and as part of the 32 hours must complete the following courses:

Commun. 331.	Advertising Copy and Layout	2 hours
Commun. 333.	Broadcast Advertising	2
Commun. 437.	Advertising Workshop	2
Commun. 439.	Advertising Media and Campaigns	3
Commun. 535.	Public Relations	3
Commun. electives		2
		<hr/> 14 hours

In addition to the core courses in the major and supporting areas, and the specific sequence courses listed above, students majoring in the advertising and public relations sequence will meet the following requirements:

Bus. Mgt. 341.	Marketing Management	3 hours
(Prerequisites: Acctg. 202, 232; Econ. 111, 112; Stat. 221.)		
Bus. Mgt. 442.	Marketing: Management and the Consumer	
(Prerequisites: Bus. Mgt. 341; Econ. 302.)		3
Bus. Mgt. 458.	Marketing Research	3
(Prerequisite: Bus. Mgt. 442.)		
		<hr/> 9 hours

Plus three or more semester hours of electives chosen from among the following courses:

Art 101.	Introduction to Art	2 hours
Art 108.	General Art	2
Comput. Sci. 201.	Computers and Their Use	2
Engl. 215.	Expository Writing	3
Engl. 218.	Creative Writing	2
Engl. 316.	Technical Writing	2
Phil. 101.	Logic and Language	3
Psych. 365.	Motivation	3
Speech and Dram. Arts 111.	Introduction to Argument and Debate	2

Broadcasting Sequence

All candidates for the degree of Bachelor of Arts in communications, with an emphasis in broadcasting, must complete 32 semester hours in communications, including the department core, and as part of the 32 semester hours must complete the following courses in the area of broadcasting:

Commun. 346.	Broadcast Practicum I	2 hours
Commun. 347.	Broadcast Practicum II	2
Commun. 449.	Programs and Audiences	3
Commun. electives		7
		<hr/> 14 hours

In addition to the core requirements in both the major and supporting areas, the candidate for a degree with emphasis in broadcasting must complete the following:

Art 110.	Design in Everyday Life, or	
Art 108.	General Art	2 hours
Speech and Dram. Arts 305.	Discussion and	
	Conference Leadership, or	
Speech and Dram. Arts 403.	Persuasive Speaking	2
Comput. Sci. 201.	Computers and Their Use	2
Hum. 101.	An Introduction to the Humanities, or	
Hum. 202.	The Arts in Western Culture: Late	
	Renaissance to the Modern Age	3
		<hr/> 9 hours

Journalism Sequence

All candidates for the degree of Bachelor of Arts in communications, with an emphasis in journalism, must complete 32 semester hours in communications, including the department core, and as part of the 32 semester hours must complete the following courses in journalism:

Commun. 312.	News Reporting and Editing	4 hours
Commun. 323.	Practical Reporting and Editing	3*
Commun. 520.	Editorial Writing and Interpreting	
	Public Affairs	3
Commun. electives		4
		<hr/> 14 hours

*An internship with a newspaper for one block or for the summer between junior and senior years will serve (Commun. 495R).

In addition to the core courses in the major and supporting areas, and the specific sequence courses listed above, students majoring in the journalism sequence will meet the following requirements:

Complete the following:

Pol. Sci. 311.	State and Local Government and Politics	3 hours
(Prerequisite: Pol. Sci. 210.)		
Sociol. 210.	Racial and Minority Group Relations	2
Sociol. 426.	The Sociology of Urban Life	
(Prerequisite: Sociol. 111.)		3
Indus. Ed. 250.	Graphic Arts	3
		<hr/> 11 hours

Complete 10 semester hours from this list:

(Prerequisite: Econ. 311.)		
Econ. 476.	Government and Business	
(Prerequisite: Econ. 311.)		3 hours
Ed. 310.	The State, the School, and the Teacher	2
Engl. 215.	Expository Writing	2
Engl. 315.	Advanced Expository Writing	2
Geog. 231.	Economic Geography	3

Geog. 441.	Political Geography	3
Geog. 522	Urban Geography	3
Hist. 331.	The USSR and Eastern Europe	3
Hist. 379.	Contemporary United States History	3
Ling. 325.	Introduction to Descriptive Linguistics	3
Pol. Sci. 170.	Introduction to International Politics	3
Pol. Sci. 310.	The United States Political System	3
Pol. Sci. 330.	Introduction to Public Administration	3
Pol. Sci. 510.	Parties and Pressure Groups in the U. S.	3
Pol. Sci. 535.	Municipal Government and Administration	3
Sociol. 348.	Collective Behavior	2
Sociol. 380.	Introductory Criminology and Penology	3
Sociol. 383.	Juvenile Delinquency	
	(Prerequisite: Sociol. 111.)	2
Sociol. 386.	Organized Crime	
	(Prerequisite: Sociol. 111, 380 or 383.)	2
Sociol. 389.	Social Aspects of Mental Health	3
Sociol. 420.	Population Problems	3
Sociol. 501.	Political Sociology	
	(Prerequisite: Sociol. 111 or consent of instructor.)	3
Sociol. 591.	Seminar in Crime and Causation and Treatment	
	(Prerequisites: Sociol. 111, 380.)	2
	From this list	10 hours

Secondary School Teaching

Students who desire to prepare for journalism teaching and student publication supervision in secondary schools should complete the 30-hour teaching major in journalism (communications) and one of the teaching minors as listed in the Education section of this catalog, in addition to prescribed courses in education.

Those desiring to specialize in educational broadcasting should complete the same teaching major, choosing appropriate elective courses in broadcasting in consultation with their adviser.

Supplementary Information

The requirements in the concentrations listed above may be modified to allow for previous experience or individual needs upon permission of the chairman of the department.

In addition to maintaining the minimum grade-point averages required by the academic standards of the University, majors must maintain a grade-point average of 2.5 or higher in all work taken in the department. Not more than 36 credit hours in the department may be included in the undergraduate program unless the student presents more than 128 credit hours for graduation with the baccalaureate degree.

Course offerings are supported by laboratory facilities in the areas of advertising, reporting and editing, photography, and broadcasting. Students in advertising and journalism have opportunity to combine their academic programs with staff assignments on "The Daily Universe," the campus newspaper. Formal course work in broadcasting is supplemented by a program providing practical experience in broadcasting operations and opportunities for service with the staffs of KBYU-TV and KBYU-FM.

As a link between the student's academic preparation and his professional career, professional internships are arranged for qualified seniors and graduates. In these internships supervised experience is gained on the staffs of selected newspapers, magazines, radio and television stations, and advertising agencies and offices.

The department sponsors a series of lectures on communications to bring students in contact with leading professionals and scholars in the field of communications. Professional activities for students are fostered by departmental clubs and campus chapters of a number of national organizations, including the following: Sigma Delta Chi, professional journalistic society; Alpha Epsilon Rho,

professional broadcasting fraternity; Kappa Tau Alpha, journalism scholarship society; and the Advertising Club.

Requirements for a Minor

The general minor in communications includes a minimum of 16 credit hours selected from the core curriculum and one of the concentrations listed above. Commun. 101 and 211 are required of minors.

The **teaching minor** in journalism (communications) includes 20 credit hours and is listed in the Education section of this catalog.

Courses

101. **Introduction to Mass Communication.** (2:2:0) F.S.Su. Home Study also. (G-HA)
A survey of the media of mass communication and their functions in modern society: newspapers, magazines, motion pictures, radio and television, advertising, and public relations.
201. **The Communications Process.** (2:2:0) S. Haroldsen, Rich
Introduction to the theory of communications; the meaning of meaning; major contributors to communications theory. Sociol. 215 may be substituted for this course.
211. **News Writing.** (3:2:3) F.S.Su. Home Study also. Prerequisite: Engl. 112, or equivalent, or consent of instructor.
Principles of gathering, evaluating, and writing news for newspapers and broadcast media; introduction to specialized forms of mass media writing.
230. **Introduction to Advertising.** (2:2:0) F.S.Su. Home Study also. Barrus
Principles of advertising and its role in the American economy; values to advertisers and media. Newspaper, radio, and television advertising is emphasized.
255. **Introduction to Broadcasting.** (2:2:1) F.S.Su.
The role of radio and television in modern society. A study of influences, current practices, and social implications of the American system of broadcasting.
307. **Communications Law.** (3:3:0) F.S.Su. Home Study also. Burnett
Legal rights, privileges, and regulations of press, radio, television, and films; principles of libel, contempt, copyright, and right of privacy; decisions of regulatory bodies.
312. **News Reporting and Editing.** (4:3:4) F.S.Su. Prerequisites: Commun. 211; Indus. Ed. 250. Burnett, Haroldsen
Evaluation of news; advanced reporting practice; copyreading; headline writing and page makeup. Beat reporting and practice in handling local and wire copy for publication.
323. **Practical Reporting and Editing.** (3:1:8) F.S.Su. Prerequisite: Commun. 312.
Supervised experience in reporting, copyreading, and editing assignments on "The Daily Universe"; individual conferences with instructor.
331. **Advertising Copy and Layout.** (2:2:0) F.S. Prerequisites: Commun. 230; Indus. Ed. 250. Barrus
Reader interest, sales appeal, and production techniques for advertising in printed media. Students design retail and product advertisements for typical publications.
333. **Broadcast Advertising.** (2:2:0) F.S. Prerequisites: Commun. 230, 255. Barrus
Advertising principles for broadcast media; study of research, station coverage, and audience measurement. Writing commercials, programs, spot announcements; time buying, production, transcription, and film services.

- 340. Broadcast News.** (3:2:4) S. Prerequisites: Commun. 255, 312. Recommended: Commun. 312, 372. Bradley
News preparation and production of newscasts and public affairs programs. Consideration of interviews, documentaries, commentaries, editorials, and special events. Practical and laboratory experience provided.
- 346. Broadcast Practicum I.** (2:2:2) F.S.Su. Prerequisite: Commun. 255 or qualifying examination. Rich, Tarbox, Williams
Instruction and laboratory practice in planning, writing, editing, and producing television and radio programs.
- 347. Broadcast Practicum II.** (2:2:2) F.S.Su. Prerequisite: Commun. 346. Rich, Tarbox, Williams
Continuation of Commun. 346, with emphasis on more complex program forms and on integration of program materials into station and closed-circuit system operations.
- 363. Intermediate Photography.** (3:2:3) F.S. Prerequisite: Physics 177 or equivalent. W. Barrus, J. Walker
Practicum in the creative application of black-and-white and color photography to communication and artistic expression. Advanced camera and darkroom experiences are provided.
- 365. Press Photography.** (2:1:3) F. Prerequisite: Physics 177 or equivalent. W. Barrus, Hampton
Application of photocommunications principles in designing and producing single and multiple-picture sequences for newspapers, magazines, and other publications.
- 366. Advertising and Illustrative Photography.** (2:1:3) S. Prerequisite: Physics 177 or equivalent. W. Barrus, J. Walker
Black-and-white and color photography, using the principles of layout and persuasive communication in the design and production of advertising for all the media.
- 367. Portrait Photography.** (2:1:3) F.S. Prerequisite: Commun. 363 or equivalent. Cheesman
Posing, lighting, and portrait retouching and finishing, including color; studio experience.
- 368. Pictorial Photography.** (2:1:3) S. Prerequisite: Commun. 363 or equivalent.
Art composition as applied to photography. Perfecting 35-mm and larger format techniques through creative projects involving landscapes, still life, and use of recorded sound.
- 371. Introduction to the Motion Picture.** (2:2:1) F.S.Su. Prerequisite: Physics 177 or equivalent. Goodman
Introduction to documentary film theory, using films to illustrate technique and content. Overview of communication aspects of the cinema.
- 372. Motion Picture Production.** (3:2:4) S. Prerequisite: Commun. 371. Stum
Elements of silent motion picture production, including story boards, shot continuity, camera and lens utilization. Laboratory projects using 8-mm and 16-mm equipment.
- 373. Motion Picture Writing.** (3:3:0) F.S.Su. Prerequisite: Commun. 211. Whitaker
Basic fundamentals of script playwriting, from synopsis through screen treatment to final shooting script; analysis of theme and maturation action by reviewing films; aesthetics and script mechanics treated.
- 377. Secondary Teaching Procedures.** (3:3:1) F. Prerequisites: Commun. 312; Ed. 301.
Identification of teacher and pupil activities required for conceptual

learning and for each of the following types of subject matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in noninstructional activities at a high school.

427. **Magazine Writing.** (3:3:0) F. Home Study also. Prerequisite: Commun. 211 or consent of instructor.
Planning and writing nonfiction articles for sale to periodicals. Analysis of magazine markets and criticism of articles written in the course.
432. **Retail Advertising.** (2:2:Lab. incl.) F. Prerequisite: Commun. 230. Barrus
Organizing retail advertising department; planning and preparing retail advertising programs, with emphasis on advertising problems of smaller independent retail organizations; outside project in cooperation with local retailers.
434. **Newspaper Advertising Management.** (2:2:Lab incl.) S. Prerequisites: Commun. 230, 331. Paul, Richards
Principles of newspaper advertising, organizing the advertising staff, servicing of local and national accounts, display and classified rate structures, advertising sales, promotion, and research.
437. **Advertising Workshop.** (2:1:2) F.S. Prerequisites: Commun. 331, 333. Barrus, Evans
Application of research, media selection, and principles of copy, layout, and broadcast advertising to specific problems.
439. **Advertising Media and Campaigns.** (3:3:0) F.S. Prerequisites: Commun. 331, 333, 437. Barrus, Wolsey
Research and planning of advertising campaigns as related to national and local objectives; media selection and budgeting; individual project in production of an advertising campaign.
444. **Broadcast Sales Administration.** (2:2: Lab. incl.) F.S. Prerequisites: Commun. 230, 255. Barrus, Bradley, Wolsey
The course is designed to develop the student's understanding of the complex interrelationships that are involved among various departments, in order to handle professionally the sales administration of a broadcast facility.
449. **Broadcast Programs and Audiences.** (3:3:0) F.Su. Home Study also. Prerequisites: Commun. 346, 347. Rich, Williams
Observation and analysis of basic program forms used in radio and television; examination of effective program structure and appeals; consideration of audience situation and measurement.
451. **Broadcast Writing.** (2:2:3) F.S. Prerequisites: Commun. 211, 255, or consent of instructor. Williams
Study of and practice in documentary, dramatic, and continuity writing for radio and television.
453. **Broadcasting Announcing Workshop.** (2:1:3) F.S. Prerequisites: Commun. 255 and consent of instructor. McKinlay
Laboratory and broadcast practice in presentation of major types of radio and television announcing materials.
456. **Television Directing Workshop.** (3:3:3) F.S.Su. Prerequisite: Commun. 346. Recommended: Speech and Dram. Arts 460. Tarbox
Theories and techniques of television directing.
458. **Broadcasting and Film Performance Workshop.** (2:1:3) F. Prerequisites: Commun. 255; Speech and Dram. Arts 121, 123.
480. **Senior Seminar.** (3:3:0) F.S. Prerequisites: Commun. 101 and senior standing.
Analysis of contemporary practices and problems of the mass media as social and business institutions; introduction to communications research.

491R. Communications Symposium. (1:1:0 ea.) F.

Lectures by professional communicators and specialists in communications analysis.

495. Projects in Communication Practice. (1-4:0:5-20) F.S.Su. Prerequisites: senior standing and consent of department chairman.

Professional projects or internships for communications majors in advertising, public relations, journalism, radio, television, or photocommunications.

(Students must make application to the department chairman for assignment one semester in advance of the term during which assignment to a project is desired. Internships normally will be assigned on the block plan during the Fall or Spring Semester or during Summer School.)

510. Mass Media Administration. (2:2:0) S. Prerequisite: Commun. 312, or 439, or 449.

Problems of organization and administration for newspapers, magazines, radio stations, and television stations.

520. Editorial Writing and Interpreting Public Affairs. (3:2:3) S. Prerequisite: Commun. 312 or consent of instructor.

Study of the opinion and interpretative functions of the mass media of communication. Assignments in editorial writing and depth reporting.

526. School Yearbook Production. (2:2:0) F.Su. (Offered 1971-72 and alternate years)

Planning and supervising production of school yearbooks, including copy, illustration, layout, printing, binding, and business management.

528. Magazine Editing and Publishing. (2:2:0) S. Prerequisite: Commun. 312.

Principles of layout and design for magazines and business publications. Contemporary practices in content and production.

535. Public Relations. (3:3:0) F.S.Su. Home Study also. Prerequisite: Commun. 211 or consent of instructor.

Bradley
Philosophy and practice of public relations in business, governmental, educational, and other institutions. Study of publics, media, methods, press relations, and publicity.

536. Public Relations Case Studies. (2:2:0) S.

Barrus
Case studies in public relations. Cases are selected from a wide range of actual public relations problems which have confronted business, governmental, educational, and service institutions.

550. Problems and Practices in Educational Television and Radio. (2:2:0) S.Su. Prerequisites: advanced standing in communications or education.

A study of current problems and practices in the utilization and administration of television and radio in education and other noncommercial applications.

580. Comparative World Communication Systems. (2:2:0) F.Su.

Burnett, Haroldsen
Mass media systems in developing authorization and free nations. Relationship of these systems to government.

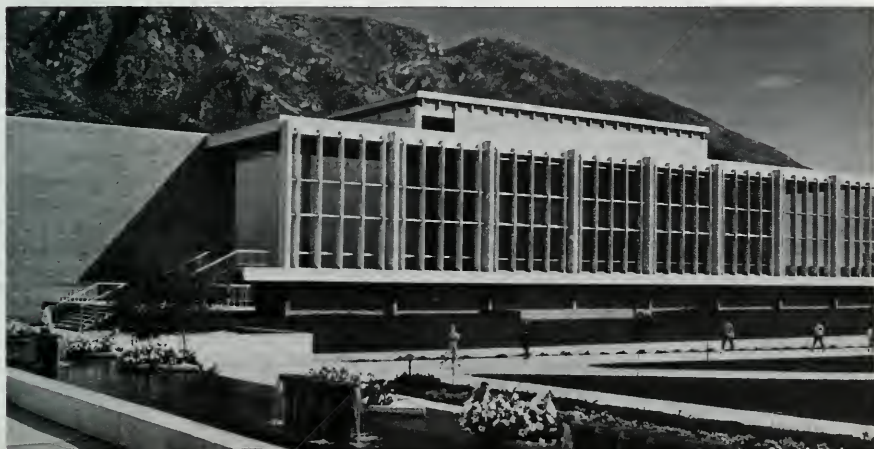
581. International Communication Problems. (2:2:0) S.Su.

Barrus, Burnett, Haroldsen
An examination of the cultural, physical, and governmental barriers to the flow of information between nations. Role of the press in foreign policy. International propaganda.

610. Studies in Communication Theory. (3:3:0) F. Recommended: one or more courses in philosophy, psychology, and sociology.

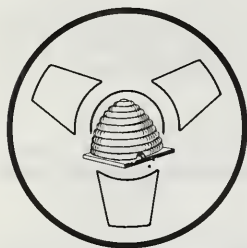
Rich
A study of the historical and philosophical development of communications theory, with special application to problems of the mass media.

- 611. Research Methods in Mass Communication.** (2:2:0) F.S.Su. Prerequisite: Stat. 221, or Ed. 552, or Psych. 370, or Sociol. 524. Haroldsen, Smith
Research techniques in communication fields, including readership, readability, content analysis, and audience measurement. Introduction to thesis writing.
- 612. Mass Communication and Society.** (3:3:0) S.Su.
Concepts of mass communication in contemporary society; critical evaluation of responsibilities and performance of the mass media of press, radio, television, and film.
- 615. Propaganda, Public Opinion, and Communications.** (2:2:0) S.
Roles of the mass media as channels of propaganda and influences upon public opinion. Effects of public opinion on mass communications.
- 617. Mass Communications and Government.** (3:3:0) S. Prerequisite: Commun. 307; or Pol. Sci. 361 or 563. Burnett
An examination of the contemporary relationship between government and the mass media, with attention to the philosophical and historical basis for regulation in light of constitutional guarantees.
- 620. Communication and Information Technologies.** (2:2:0) F. (Su. alternate years) Prerequisite: graduate standing. Williams
Systems and technologies for encoding, transmitting, processing, and decoding information by electronic-mechanical means; analysis of computer use in new methods of interchanging print and other messages.
- 630. Advertising Planning and Research.** (2:2:0) S. (Offered 1970-71 and alternate years) Prerequisite: Commun. 439. Barrus
An analysis of methods employed to measure the effectiveness of advertising, with emphasis on pretesting techniques for advertising campaigns.
- 690. Seminar in Mass Communication.** (1:1:0) F.S.Su.
- 691, 692. Special Studies in Communication.** (1-3:Arr.:Arr. ea.) F.S.Su.
Individual work on approved problems not leading to a thesis. Projects must be approved before registration.
- 694. Readings in Mass Communication.** (1-2:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.



Franklin S. Harris Fine Arts Center

Computer Science



Professor: Carlson.

Associate Professors: Dean (chairman, A-64 ASB), Gardner.

Assistant Professors: Crandall, T. Norman, N. Wright.

Instructors: Daines, Engstrom, Goodrich, Hodson, Robison, Roskelley.

Special Instructor: Bennett.

The computer science curriculum is designed to meet several needs. The student may select a major from six optional areas which, as described below, are intended to be somewhat flexible, and he should consult with an adviser to obtain a program suited to his interests while remaining compatible with department standards. The student who desires a minor in computer science can also be accommodated, the requirements being defined below. Service courses are also offered for students of other departments who either need such courses as part of their prescribed program or desire to take such courses as electives. It is recommended that the student wishing to explore computer science as a possible field of study take as first courses Comput. Sci. 201 and Comput. Sci. 230.

Requirements for a Major

A bachelor's-degree candidate majoring in computer science is required to complete the following core courses: Comput. Sci. 101, 201, 230, 331, 332A, 391R (twice); and Math. 210, 108 or 111 or 141, 109 or 112 or 142, the selection of the math. sequence depending on the major option chosen. He must also select and complete one of the following six options. This choice need not be made until midway in the student's sophomore year. No minor is required of students completing the computer science major except those choosing the business option.

Option A. Computer Software (Theory and design of compilers, assemblers, loaders, executives and operating systems). Comput. Sci. 333, 351, 421, 431, 432, 441, and 436 or 451 or 571.

Option B. Computer Hardware (Theory and logic in design of computing devices). Comput. Sci. 351, 421, 431, 432 or 332B, 441; E.E. 523, 623. (One may substitute E.E. 524 for any one of the C.S. 400-level courses.)

Option C. Information Science (Theory and application of information storage, retrieval, organization, and handling). Comput. Sci. 333, 351, 432, 451, and select any three of the following: Comput. Sci. 436, 571; Psych. 570; Stat. 433; LIS 654.

Option D. Numerical Analysis (Computer applications in mathematical analysis). Elect Math. 141, 142 in core curriculum. Take Comput. Sci. 431; Math. 243, 244, 411, 434; and select any two of the following: Math. 412, 436; Stat. 332. One may elect Math. 112, 113, 214, 321, 322, 323, instead of Math. 141, 142, 243, 244, 434, 436.

Option E. Business (Computer applications in business). Comput. Sci. 333, 351, 451, 571 and a minor in accounting, business management, or economics.

Option F. Statistics (Computer applications in statistical analysis). Comput. Sci. 431, 571; either Stat. 433 and 434 or Stat. 531 and 534; one of the following three: Comput. Sci. 441, 436, or Psych. 570; and any two of the following: Stat. 241, 330, 336, 337.

Requirements for a Minor

A student who desires a minor in computer science must complete the following: Comput. Sci. 230, 331 or 333 (both 331 and 333 cannot apply towards the minor, but the student may apply one toward the minor and count the other as part of the required 128 hours for graduation), 201 or 391R (2 times), and any other two computer science courses numbered 300 or above.

Suggested Possible Sequence of Courses for Majors

Freshman	Hrs.	Major options	4
*Relig. 121, 122	4		
*Engl. 111, 112	6		32
*P.E.	1		
*Health 130; Hist. 170	5		
Math. 108, 109 (141, 142) (111, 112)	8 (9)		
Comput. Sci. 101, 201, 230	7		
*Dev. 101, 102	1		
	32 (33)		
Sophomore	Hrs.	Junior	Hrs.
*Relig.	4	*Relig.	4
*P.E.	1	*Phil. 101	3
*Econ. 111, 112; or Econ. 101, Psych. 111	6	*Phys. sci.	3
*Speech and Dram. Arts 102; Stat. 221	5	*Biol. sci.	4
Math. 210	3	Comput. Sci. 391R (both semesters)	2
Comput. Sci. 332A and 331 or 333	6	*Dev. 301, 302	1
*Biol. sci.	2	Major options	6
*Dev. 201, 202	1	Electives	9
			32
		Senior	Hrs.
		*Dev. 401, 402	1
		Major options	12
		Electives	19
			32
		*General education courses.	

Courses

- 101. Data Processing Fundamentals.** (2:2:1) F.S.
Basic familiarity with and utilization of machines used in data processing, ranging from card punches to modern electronic computers. Emphasis on machine operation. Intended for majors.
- 131. Coding in FORTRAN Language.** (2:2:1) F.S.Su.
Fundamentals of FORTRAN language for nonmajors.
- 201. Computers and Their Use.** (2:2:0) F.S.
General introduction to computers—how they work and their use in the modern world.
- ☐ **Mathematics 210. Introduction to Mathematical Logic.** (3:3:0)
- ☐ **Electrical Engineering Science 221, 222. Numerical Solutions in Electrical Engineering.** (1:1:0 ea.)
- 230. Introductory Computing.** (3:3:2) F.S.Su. (G-ML m) Prerequisite: Math. 106, 108, 111, or 122.
An introduction to flowcharting and to FORTRAN, COBOL, and assembly languages. Designed to give a broad familiarization with computing at an exploratory level. Prerequisite to all higher-numbered computer science courses.
- 331. Computer Programming Language I (FORTRAN).** (3:3:2) F.S. Home Study also. Prerequisites: Comput. Sci. 230; and Math. 112, 109, 141, or 223.
FORTRAN programming, with mathematical applications.

- 332A. Computer Organization and Programming (Assembly Language).** (3:3:2) F.S.Su. Prerequisite: Comput. Sci. 230.
Assembly language programming, and functional structure of computer hardware. Treats the language and hardware of the University's main computer.
- 332B. Computer Organization and Programming (Assembly Language).** (3:3:2) S.Su. (m) Prerequisite: Comput. Sci. 230 or equivalent.
Assembly language programming and functional structure of computer hardware. Treats the language and hardware of the University's auxiliary computers.
- 333. Computer Programming Language II (COBOL).** (3:3:2) F.S. Prerequisite: Comput. Sci. 230.
COBOL programming, with particular emphasis on business applications.
- 351. Information Structure.** (3:3:1) F.S. Prerequisites: Comput. Sci. 332; Math. 210.
Computer representation of information; its structure and logical organization for optimum computer processing.
- ☐ **Accounting 356. Accounting Information Systems.** (3:3:0)
- 391R. Seminar in Computer Science Topics.** (1:2:0 ea.) F.S. Prerequisites: Comput. Sci. 332, and 331 or 333. Recommended: Math. 210.
A participation-type seminar with final examination. Reports taken from current developments in the computer field.
- ☐ **Mathematics 411, 412. Numerical Analysis.** (3:3:0 ea.)
- 421. Executive Programming Systems.** (3:3:0) F. (Offered 1970-71 and alternate years) Prerequisite: Comput. Sci. 351.
The structure and design of executive programming systems; in particular, input-output routines, memory allocation routines, interrupt handling, timesharing, and partitioning.
- 431. Algorithmic Languages and Compilers.** (3:3:0) F. Prerequisites: Comput. Sci. 331 and 332.
Formal description of algorithmic languages, e.g., FORTRAN, and the techniques used in their compilation. Study of syntax, semantics, ambiguities, procedures, replication, iteration, and recursion.
- 432. Computer Organization and Programming (Assembly Language) II.** (3:3:1) F.S. Prerequisite: Comput. Sci. 351.
Advanced features of assembly language; MACROS, control sections, I/O, processing of lists and tables, character manipulations, and floating-point operations.
- 436. List Processors.** (3:3:1) F. (Offered 1971-72 and alternate years)
List processing language development and usage. Analysis of the strengths and weaknesses of list processors. SNOBOL, IPL-V, LISP, etc., included.
- ☐ **Industrial Technology 436. Basic Computer-Assisted Part Programming.** (3:2:3)
- ☐ **Industrial Technology 437. Advanced APT Part Programming.** (3:2:3)
- 441. Computer Operating Systems.** (3:3:0) S. (Offered 1971-72 and alternate years) Prerequisite: Comput. Sci. 351.
The computer operating systems in its role as coordinator and scheduler of compiling, loading, executing, assembling, etc.
- ☐ **Industrial Technology 441, 442. Real-Time Computer Systems.** (3:2:2 ea.)
- 451. Information Systems Analysis.** (3:3:2) S. Prerequisite: Comput. Sci. 333. Recommended: Comput. Sci. 351.
Techniques for the analysis of information processing systems from the viewpoint of computer implementation.

- ☐ Electrical Engineering Science 523. Digital Computer Design. (3:3:0)
- ☐ Electrical Engineering Science 524. Switching Theory. (3:3:0)
- ☐ Electrical Engineering Science 528. Analog Computer Design. 2:2:0)
- ☐ Accounting 555. Data Processing Systems. (3:3:0)
- ☐ Accounting 557. Advanced Computer Programming. (3:1:3)
- ☐ Psychology 570. Computer Use in Behavioral Sciences. (3:3:6)
- 571. Discrete Simulations Languages. (3:3:1) S. Prerequisites: Psych. 570, or Comput. Sci. 331 and Stat. 221, 501.
Computer simulation utilizing logical, numerical, and Monte Carlo models. Collection and evaluation of statistics on passage times, flow volume, queue lengths, manpower, and equipment utilization.
- 580. Computer Applications in the Physical Sciences. (4:4:1) F. (Offered 1971-72 and alternate years) Prerequisite: Comput. Sci. 331.
The use of digital computers in the physical sciences, with particular emphasis on the modeling and simulations of physical structures.
- ☐ Electrical Engineering Science 623. Advanced Digital Computers. (3:3:0)
- ☐ Library and Information Sciences 654. Seminar: Data Processing in Library and Information Sciences. (3:3:0)



Computer science student solving classroom problem

Devotional Assemblies



Professor: Dean A. Peterson (C-356 ASB).

(An interdepartmental area only)

Throughout the history of Brigham Young University, students have been privileged to receive special visits from the General Authorities of the Church and hear messages prepared especially for them. At present, devotional assemblies are held weekly on Tuesday mornings. It is planned that during the academic year the students will have the opportunity to hear outstanding Church leaders including members of the First Presidency and the Council of the Twelve Apostles.

Credit for attendance at the weekly devotional assembly may be earned at the rate of one-half semester hour per semester, and such credit may be applied toward the requirement for religion in the following manner: Up to four hours of devotional credit may be used to fulfill the sixteen-hour religion requirement.

Courses

101, 102. Lectures in Religion. (½:1:0 ea.) F.S.Su.	Guest Lecturers
201, 202. Lectures in Religion. (½:1:0 ea.) F.S.Su.	Guest Lecturers
301, 302. Lectures in Religion. (½:1:0 ea.) F.S.Su.	Guest Lecturers
401, 402. Lectures in Religion. (½:1:0 ea.) F.S.Su.	Guest Lecturers

Economics

Professors: Clark, Crockett, Davies, Doxey, Nelson, Wirthlin.

Associate Professors: Bateman, Rickenbach, Wimmer (chairman, 302 JKB).

Assistant Professors: Dutton, Foster, Koller, Pope, Pritchett.



Economics, as a social science, provides a broad background for entrance into many professional areas. Thus, a minimum of special courses is required, allowing the student considerable flexibility in developing his own program.

Several programs are available to serve students majoring in economics:

1. General business economics—for students desiring to go directly into business.
2. Labor relations and labor economics—for those intending to make labor relations a profession.
3. Preprofessional economic training—for those contemplating entering law school, a graduate school of business, government service, or similar areas of study.
4. Economic theory—for students intending to do graduate work in economics or allied fields.
5. International economics—for those desiring to enter foreign service or engage in international trade.
6. Junior college teaching—for graduate students planning to teach economics in the junior colleges.
7. Urban economics—for those desiring to go directly into business or to work for government groups.

Students selecting economics as a minor subject must take Econ. 111, 112, 301 or 311, 302 or 312, and 6 additional hours in economics courses numbered 300 or above.

The bachelor's degree in economics is offered in both the College of Business (B.S. degree) and the College of Social Sciences (B.A. degree).

It is recommended that students take Econ. 311 and 312 as early as possible in their program, as these courses are prerequisites for many upper-division classes.

The department allows a maximum of 3 hours of "D" credit in courses used to fulfill the major requirements.

Requirements for a Major in the College of Business

Econ. 111, 112, 311, 312, and either 415 or 474.

Fifteen additional hours in economic courses numbered 300 or above, which must include Econ. 353.

Stat. 221 or 332 or 421.

Econ. 488 or an additional 3-credit course in statistics. (Econ. 488 may not count toward the 15 additional hours, unless the extra statistics course is taken.)

Math. 111 (or 108) and Math. 112 (or 109).

Math. 112 (or 109) may also be counted for three hours toward the 15 additional hours in economics.

Bus. Mgt. 341 and either 321 or 361.

Acctg. 201, 202, and 342.

Math. 111 and 112 and Econ. 511 and 512 are strongly recommended for those contemplating graduate work in economics or business.

Requirements for a Major in the College of Social Sciences

Econ. 111, 112, 311, 312, and either 415 or 474. Fifteen additional hours in economics courses numbered 300 or above.

Stat. 221 or 332 or 421.

Econ. 488 or an additional 3-credit course in statistics. (Econ. 488 may not be counted toward the 15 additional hours, unless the extra statistics course is taken.)

Math. 111 (or 108) and Math 112 (or 109).

Math. 112 (or 109) may also be counted for 3 hours toward the 15 additional hours in economics.

Math. 111 and 112 and Econ. 511 and 512 are strongly recommended for those contemplating graduate work in economics or business.

Students electing to fulfill a minor must have their program approved by an adviser. The minor program should include no fewer than 14 hours in a department in the College of Social Sciences, or the Department of Mathematics or Statistics. Minors outside these areas must be approved by the department chairman as well as the adviser.

Courses

101. **Survey of Economics.** (3:3:0) F.S.Su. Home Study also. (G-SS) Davies, Nelson

A one-semester survey course designed to familiarize students with fundamental economic principles and to develop an understanding of the critical economic problems facing America and the world today.

111. **Introduction to Economic Principles and Problems.** (3:3:0) F.S.Su. Home Study also. (G-SS m)

An elementary course in economic principles and problems; emphasis is placed on employment and national income analysis.

112. **Introduction to Economic Principles and Problems.** (3:3:0) F.S.Su. Home Study also. (G-SS m)

A continuation of Econ. 111. Emphasis is placed on the theory of price and its effect on the household, firm, and industry.

241. **Comparative Economic Systems.** (3:3:0) F.S.Su. (G-SS) Koller, Nelson

Analysis and critical appraisal of contemporary economic systems: capitalism, socialism, and communism.

274. **Economic History of the United States.** (3:3:0) F.S.Su. Home Study also. (G-SS) (Not open to economics majors.) Davies, Doxey

289. **Introduction to the Elements of Mathematical Economics.** (3:3:0) F.S.Su. Prerequisites: Econ. 111 and 112; Math 108; Stat. 221 or 332; or consent of instructor.

Introduction to the mathematical tools and their application to the quantifiable elements of economic theory.

301. **Income Analysis.** (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111 and 112 or equivalent; Math. 108 or equivalent. (Not open to economics majors.)

Intermediate economic theory; emphasis is on national income analysis.

302. **Price Analysis.** (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111 and 112 or equivalent; Math. 108 or equivalent. (Not open to economics majors.)

Intermediate economic theory; emphasis is on price and distribution analysis.

- 311. Theory of Income, Employment, and the Price Level.** (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111 and 112; Math. 111 or 108 or equivalent. Clark, Dutton, Foster
An upper-division course in economic theory, with emphasis on national income analysis.
- 312. Theory of Price.** (3:3:0) F.S.Su. (m) Prerequisites: Econ. 111 and 112; completion of or concurrent registration in Math. 112 or 109. Koller, Pritchett, Rickenbach
An upper-division course in economic theory, with emphasis on price and distribution analysis.
- 334. Economic Development in Latin America.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Bateman
An analytical treatment of the patterns of economic growth of Latin-American countries. Attention directed to problems of resource allocation, industrialization, inflation, rural-urban migration, etc.
- 352. Real Estate and Urban Economics.** (3:3:0) F.Su. (m) Prerequisites: Econ. 111, 112, or equivalent. Nelson, Rickenbach
An introduction to the principles and problems associated with real estate decisions as they relate to valuation, financing, marketing, and economic trends.
- 353. Money and Banking.** (3:3:0) F.S.Su. (m) Prerequisite: Econ. 311 or 301. Dutton, Foster
Principles of money and banking as related to monetary and banking theory and policy.
- 358. International Trade and Finance.** (3:3:0) F. (G-SS m) Prerequisites: Econ. 111 and 112 or equivalent. Bateman, Doxey, Foster, Pope
An introduction to the principles and problems of international trade and finance. Special emphasis is placed on their application to the United States.
- 361. Labor Relations.** (3:3:0) F.S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Crockett, Davies
History of the labor movement, collective bargaining, and labor legislation.
- 415. History of Economic Thought.** (3:3:0) F. (m) Prerequisites: Econ. 111 and 112 or equivalent. Davies
An analysis of the development of economic thought from the time of Aristotle to the present.
- 430. Economic Development.** (3:3:0) S. (m) Prerequisites: Econ. 311 and 312 or consent of instructor. Bateman, Koller
The theory and experience of achieving economic growth in both under-developed and developed economies is presented.
- 441. Advanced Comparative Economic Systems.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Nelson
Through the use of economic models rigorous analyses of capitalism, market socialism, and central planning systems are made. Emphasis is on the application of economic principles to the problems of comparative systems.
- 452. Urban Economics: Theory, Problems, and Policies.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112 or equivalent. Nelson, Rickenbach
Economic theory applied to contemporary urban problems. Study topics include urban growth, community structure, location theory, valuation, and government policies.
- 462. Manpower Economics.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112; or equivalent. Crockett, Davies
A study of the efforts to strengthen the economic welfare and contributions of the nation's manpower.

471. **European Economic History.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112; or equivalent. Clark
Historical development of Europe's economic institutions and their effect on the general history of that continent.
474. **American Economic Development.** (3:3:0) F.S. (m) Prerequisites: Econ. 311 and 312. Pope, Pritchett, Wimmer
An investigation of the strategic factors in American economic growth and welfare.
476. **Industrial Organization and Public Policy.** (3:3:0) S. (m) Prerequisite: Econ. 312 or 302. Koller
Selected topics in micro theory, empirical studies of industrial structure, and influence of government upon industrial performance.
482. **Introduction to Business Fluctuations.** (3:3:0) F. (m) Prerequisites: Econ. 311 and 312; or equivalent. Bateman
Analysis of the nature, causes, and control of business and economic fluctuations. Identification of the problems of instability as it relates to forecasting economic activity and growth of the economy.
488. **Introduction to Econometrics.** (3:3:0) F.S. (m) Prerequisite: Econ. 311 and 312; Math. 112 or 109; Stat. 322 or 221; or equivalent. Bateman, Dutton
Mathematical and statistical techniques employed to estimate and test quantifiable economic relationships.
511. **Advanced Theory of Income, Employment, and the Price Level.** (3:3:0) F. (m) Prerequisites: Econ. 311 and 312; Math. 112 or 109 or consent of instructor. Dutton, Wirthlin
An advanced course in the theory of income and employment. Considerable emphasis will be placed on the most recent advances made in this area of study. Journal articles will be extensively used.
512. **Advanced Price Theory.** (3:3:0) S. (m) Prerequisites: Econ. 312 or 302; Math. 112 or 109 or equivalent. Pope, Pritchett, Wimmer
An advanced course in price theory which will use recent journal articles as a frame of reference for discussion periods.
- **Agricultural Economics 525. Production Economics.** (2:2:0)
530. **Advanced Economic Development.** (3:3:0) S. Prerequisites: Econ. 311, 312, 430. Recommended: Econ. 488. Bateman
The economic problems of a developing country are analyzed. Computer models are used to increase the student's awareness of the economic impact of fiscal and monetary policies.
535. **Economic Problems of Asia.** (3:3:0) S. (m) Prerequisites: Econ. 111 and 112; or equivalent.
558. **International Trade and Finance.** (3:3:0) F. (m) Prerequisites: Econ. 311 and 312; or equivalent. Recommended: Math. 112. Bateman, Doxey, Pope
563. **Economics of the Labor Market.** (2:2:0) S. (m) Prerequisites: Econ. 111 and 112, 361; or equivalent. Crockett, Davies
Wage theory under competitive and noncompetitive conditions, the role of government and labor market policies.
575. **Theory of Public Finance.** (3:3:0) S. (m) Prerequisite: Econ. 312 or equivalent. Rickenbach, Wimmer
An analysis of expenditures and taxation in the public sector.
582. **Business and Economic Fluctuations.** (2:2:0) S. (m) Prerequisites: Econ. 311 and 511 or 512; Math. 112 or 109. Bateman
588. **Econometrics.** (3:3:0) S. (m) Prerequisites: Econ. 488; Math. 112; or equivalent. Bateman, Dutton
A use of calculus, matrix algebra, and statistics to analyze quantifiable theorems of economic theory.

- 589. Advanced Mathematical Economics.** (3:3:0) F.S. (m) Prerequisites: Econ. 311 and 312; Stat. 322 or 221; Math. 112 or equivalent. Dutton, Pritchett
Application of mathematical tools to quantifiable elements of economic theory.
- 590R. Advanced Economic Problems.** (1-3:Arr.:Arr. ea.) F.S.Su. Prerequisites: Econ. 311 and 312; or equivalent.
- 592. Seminar in Monetary and Fiscal Policy.** 2:2:0) F. (m) Prerequisites: Econ. 311 and 312; or equivalent. Dutton, Wirthlin
- 601. Workshop on Economic Education.** (2-3:Arr.:Arr.) Su.
- 615. Advanced History of Economic Thought.** (3:3:0) S. (m) Prerequisite: Econ. 415 or consent of instructor. Davies
An advanced course in the development and evolution of the theoretical and institutional tools of economic analysis.
- 617. Contemporary Economic Thought.** (2:2:0) S. (m) Prerequisites: Econ. 311, 312, 415.
- 689. Seminar in Mathematical Economics.** (3:3:0) S. (m) Prerequisites: Econ. 311, 312; Stat. 332 or 221; Math. 112; or equivalent. Dutton, Pritchett
- 691. Seminar in Economic History.** (2:2:0) S. (m) Prerequisite: Econ. 474. Pope, Wimmer
- 693. Seminar in Comparative Economic Systems.** (2:2:0) S. (m) Prerequisites: Econ. 311 and 312; or equivalent. Koller, Nelson
- 694. Seminar in Labor Economics and Labor Relations.** (2:2:0) S. (m) Prerequisite: Econ. 361 or consent of instructor. Crockett, Davies
- 695. Seminar in Urban Economics.** (3:3:0) F. (m) Prerequisites: Econ. 311 and 312; or equivalent. Nelson, Rickenbach
- 696, 697. Research.** (1-3:Arr.Arr. ea.) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.)

Education



Professors: Alley, Asay, Bauer, Belt, Berryessa, Burrup, Callahan, Christensen, Clarke, Daines, Downing, Egbert, Harris, Hartvigsen, Holbrook, Holder, V. Jensen, Moffitt, Morrill, Ovard, Reid, Romney, Smith, Suicher, Talbot, Van Alfen.

Associate Professors: R. Allred, Babcock, Baird, Barnett, Bishop, C. Clark, Cottrell, Cutler, Flandro, Harmon, Harms, B. Harrison, Merrill, Moses, Ord, Pinegar, Rohde, Thomson, Wilcox, Wilson, Winterrose, Wolfgramm.

Assistant Professors: W. Allred, Brown, Card, Gale, E. Goodman, G. Harrison, Hendrix, Henstrom, Herlin, Keele, B. Kelly, E. Petersen, Puckett, Snow, Thomas, Webb, Wootton.

Instructors: Anderson, Arnoldsen, Craig, Hammond, Henderson.

Clinical Instructors: Bowles, Campbell, Carlisle, H. Clark, W. Clark, Davidson, de Jong, Jacob, Kapp, Knight, Koplin, Miller, E. Miller, Nelson, Peterson, Provost, Rasband, Sandberg, Searle, Storrs, Wadham, Young.

The undergraduate program is organized to develop effective and capable teachers. Courses sponsored by this department are designed to help students understand children, organize materials, and acquire the knowledge, skills, and attitudes of effective teachers. The department trains in three areas: special education, elementary education, and secondary education.

To be eligible for teacher education sequence courses (Ed. 301 initial course), a student must have either a BYU cumulative grade-point average with no fewer than 32 semester hours completed of 2.25 or higher or a total college cumulative grade-point average of 2.25 or higher. He must also satisfy a grammar and spelling requirement by passing a test which is administered by the Testing Service, or he may qualify by verifying a score of 20 or higher on the English section of the American College Test.

Students are required to obtain a Certificate of Admissions card by clearing through the Teacher Clearance Office when the above prerequisites are met. This must be done prior to registration. TCO clearance is also required for certain other professional sequence courses as noted in the catalog.

The Department of Education is organized to offer courses for all persons engaged in professional education and service courses to graduate students in other disciplines.

Programs are designed to give special training to school administrators, school business managers, supervisors, curriculum directors, educational psychologists, specialists in counseling and guidance, reading specialists, and teachers, administrators, and supervisors of special education. Such programs are at once intensive and broad in scope. They are designed to give the depth and breadth needed by specialists in education.

Graduate Degrees. The department offers graduate degrees at both the master's and doctoral levels. The Master of Arts and the Master of Education degrees are offered. In addition, both the Doctor of Education and the Doctor of Philosophy are offered by this department. (For details of these programs, see the Graduate School Catalog.)

A two-year certificate, Specialist in Education, is offered for school superintendents, assistant superintendents, elementary and secondary school principals,

supervisors, curriculum consultants, school counselors, reading specialists, school psychologists, and special education coordinators.

PREPARATION OF SPECIAL EDUCATION TEACHERS

The College of Education offers professional courses leading to certification in special education for exceptional children in mental retardation, motor handicapped, visually handicapped, and learning disabilities.

For details of programs of study in special education, the student should contact the Institute for Special Education, 240 College Hall.

Students interested in preparing to work with communication disorders of speech and hearing should contact the Communicative Disorders Clinic.

PREPARATION OF ELEMENTARY SCHOOL TEACHERS

The department offers a comprehensive program which will satisfy requirements for an elementary teaching certificate as well as graduation requirements for students registered in the College of Education. The candidate for certification must meet University graduation requirements.

The program consists of four elements:

1. University requirements for general education.
2. The arts and science majors for elementary school teachers.
3. The subject-matter minor, a material contribution to the student's academic competence and chances for employment.
4. The professional preparation, which includes 31 semester hours of designated professional education courses, constituting a major in elementary education.

1. General Education Requirements (56-65 hours)

- a. Biological Science: (6 hours) Bot. 105 and Bio. Agr. Ed. 351.
- b. English Composition: (6 hours) Engl. 111 and 112, or 115 and 116.
- c. History and Government: (3 hours) Hist. 170.
- d. Humanities: (6 hours) Speech and Dram. Arts 121 and Hum. 101, or other courses meeting humanities requirements.
- e. Math.-Science or Foreign Language Preference: (6-12 hours)
 - (1) Math.-Science: (6 hours) Micro. 121 or 321; or Math. 306; or Zool. 261; and Math. 305; Geol. 111 or 112.
 - (2) Foreign Language: (6-12 hours) Completion of a 201 language course meets this requirement.
- f. Physical Education and Health: (4 hours) Health 130; P.E. 184, 103, and two courses chosen from two of the following categories:
 - (1) Individual games: P.E. 104, 123, 126, 133, 134, 160, 161.
 - (2) Group games: P.E. 140, 144, 147, 149, 152.
 - (3) Physical fitness: P.E. 176, 177, 178.
- g. Physical Science: (6 hours) Geol. 101, 102; Physics 100.
- h. Religion: (16 hours)
- i. Social Science: (6 hours) Geog. 120; CDFR 210.

2. The Arts and Science Major (26 hours)

- a. Humanities and Aesthetics: (11 hours) Art 326; Mus. 226, 337; Ed. 340.
- b. Math.: (3 hours) Math. 305.
- c. Physical Education and Health: (4 hours) Health 361; P.E. 375 or 376.
- d. Social Science: (8 hours) Hist. 360 or 366 and an additional six hours from the following: Anthropol. 105; Sociol. 111, 112, or 357; Pol. Sci. 110 or Econ. 101; Psych. 111.

3. The Subject-Matter Minor (14-18 hours)

Elementary education majors are required to have a minimum of fourteen hours in an approved area of specialization. This area is to be chosen from the following list:

Art: (15 hours) Art 101 or 108, 121, 122, 227 or 233, 256 or 263, 301.

CDFR: (14 hours) Courses may be chosen from the following: CDFR 305, 312, 322, 361, 410, 450, 510, 511, 570, 590, 595.

Instructional Media: (15 hours) 5 hours from Ed. 506, 510, 520, 524, and 526, and LIS 413, 429, 539, and 557; and 2 hours from Commun. 550, Comput. Sci. 201, or from additional education courses listed above.

Language Arts: (14-15 hours) Speech and Dram. Arts 242, 360, 527; Engl. 325, 422, and 2-3 hours from the following: Engl. 215, 218, 221, 225, 326; Speech and Dram. Arts 305, 572 (Ed. 424 recommended).

Mathematics: (14 hours) Courses may be chosen from the following: Math. 300, 301, 302, 306, 371, 372, 451, 495. (Students planning on a mathematics minor should consult with the Department of Mathematics before starting their minor program.)

Modern Language: (17-18 hours)

French: French 201, 301, 311, 326, 445; Ed. 430. (Classes up to and including French 311 may be waived for students who demonstrate a proficiency in the foreign language.)

German: German 201, 211, 301, 326, 440; Ed. 430. (Classes up to and including German 301 may be waived for students who demonstrate a proficiency in German.)

Spanish: Spanish 201, 301, 311, 326, 445; Ed. 430. (Students who demonstrate a proficiency in Spanish may take 321 in place of 201, 301, and 311.)

Music: (14-18 hours) Mus. 101, 191, 193, 202, 421, 4 hours' ensemble, 4 hours' piano and/or voice. Students having a performing proficiency in piano and/or voice may, by special examination, have the private lessons waived.

Physical Education: (15 hours)

Men—P.E. 181, 182, 201 or 330, 231, 232, 233, 234, 235, 236, 237, 372 or 374, 373, *341.

Women—P.E. 181, 182, 241, 242, 243, 330, 341*, Health 121.

*Prerequisite: Zool. 261.

Science: (14 hours chosen from the following) Chem. 100; Physics 127, 137; Bot. 205, 460; Zool. 235, 261, 262, 372; Geol. 104; Youth Ldrship. 381 (Ed. 423 recommended).

Social Science: (14-15 hours) Courses chosen from the following in at least three fields: Anthrop. 105; Econ. 101; Hist. 110, 111, 340, 352; Psych. 350; Pol. Sci. 105, 110, 564; Sociol. 111, 112, 357, 403, 512; Geog. 211, 231, 450, 501 (Ed. 423 recommended).

Social Science—Language Arts—Indian Emphasis: (16 hours) The regular elementary program has been modified to provide a social science-language arts minor with Indian emphasis and student teaching in public school classrooms with Indian and non-Indian students. Completion of the program qualifies the graduate for regular as well as American Indian classroom assignments and certification. The social science-language arts elementary minor currently consists of

	Hours
Ling. 325	3
Engl. 422	3
Engl. 577	3
Anthrop. 320	2
Sociol 410	2
Sociol. 389	3
	<hr/> 16

As a student fulfills the other certification requirements, he should plan to include the following related courses:

	Hours
Anthrop. 105 (Arts and science major)	3
Sociol. 112 (Arts and science major)	3
Ed. 377 (Indian education section professional education)	3
Relig. 232 (Lamanite emphasis section)	2

Copies of the four-year program outline can be obtained from the supervisor of Indian Teacher Education in the College of Education. Early consultation with him is recommended, especially for transfer students.

- (1) A student **may not** use a course listed in his minor field to count again in meeting the requirements of the general education program, the arts and science majors, or the professional education major.
- (2) Additional minors or additional courses in the minor area may be permitted by special petition to the coordinator of elementary education.

4. **The Major in Elementary Education** (31 hours—in sequence to be taken)

	Hours
*Ed. 301A Basic Concepts and Principles of Teaching	2
Ed. 420. Curriculum and Methods in the Elementary School	4
*Ed. 449. Elementary Student Teaching	8-10
Ed. 310. The State, the School, and the Teacher	2
*Ed. 402. Educational Psychology	2
Ed. 406. Introduction to Production and Utilization of Instructional Media	2
Ed. 415. Educational Values	2
*Ed. 421. Teaching Reading in the Elementary School	3
*Ed. 423. Teaching Science and Social Studies in the Elementary School	2
(or)	
*Ed. 424. Teaching Language Arts in the Elementary Schools	2
*Ed. 425. Methods and Procedures of Teaching Mathematics in the Elementary School	2

*Teacher Clearance Office approval required before registration.

Information Sheets. Copies of the information sheets for elementary education majors are available in the Teacher Clearance Office. Students enter one of the two cycles within the elementary education program according to alphabetical order.

September Experience. All students in the elementary education program are required to have a September classroom experience (1-2 weeks at the beginning of the school year unless their student teaching experience is done in the Fall Semester.) This classroom experience is to be done in the student's local community near his home. Application is made in May through the Teacher Clearance Office.

Prerequisites for Student Teaching. Successful completion of the following courses: Art 326; Mus. 226, 337; Math. 305; Ed. 301A and 340. During the semester in which the student takes Ed. 301A, he will apply for a student teaching assignment which he will complete the following semester as well as make application for his Utah teaching certificate.

PREPARATION OF SECONDARY SCHOOL TEACHERS

The College of Education offers professional courses leading to secondary certification. Students desiring certification for teaching on the secondary level must complete course requirements in the following areas:

1. **General Education.** See the general education requirements in the Student Academic Services section of the catalog.
2. **An Approved Teaching Major and Minor or Composite Major** (see below). Although a minor is no longer required for graduation from the University,

recommendation for certification requires the successful completion of an approved major and minor.

3. **Professional Education.** The following courses fill the state requirements for professional education. Sequence courses must be taken as shown below. While nonsequential courses may be taken at any time, it is highly recommended that they be taken during the student-teaching semester. For course prerequisites check course descriptions.

Sequence Courses. Teacher Clearance Office approval must be obtained before registration in the sequence courses listed below:

	Hours
Ed. 301B. Basic Concepts and Principles of Teaching	2
Ed. 377. Secondary Teaching Curriculum and Methods	3
Ed. 479 Secondary Student Teaching	8
Ed. 403 Development and Learning	4

Note: Students whose major departments offer courses equivalent to Ed. 337 and 479, bearing those numbers, must register in the appropriate department.

Nonsequential Courses. To be taken during the student-teaching semester:

	Hours
Ed. 310. The State, the School, and the Teacher	2
Ed. 415. Educational Values	2
Health 362. School Health for Secondary Teachers	2

Recommended but not required:

Ed. 406. Introduction to the Production and Utilization of Instructional Media	2
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Note: Block-Plan Classes: To provide an opportunity for students to carry a full class load during the semester in which student teaching is done, the nonsequential courses listed above are taught on the block plan. Students taking one or more of these courses at another time, or transferring equivalent credit from other institutions, will find it difficult if not impossible to arrange a full class load during the student-teaching semester.

SPECIAL PROGRAMS

Individualized Secondary Teacher Education Program (I-Step)

The Individualized Secondary Teacher Education Program, known as I-Step, is an experimental program offering twenty-one of the twenty-three credit hours of professional education required for certification. Students achieve the objectives of the program at their own rate. Some students complete their work in one semester; many require at least two semesters to finish. The content of the program is partially individualized to the needs and abilities of the student as determined by pretests and counseling. Emphasis is placed on students learning and demonstrating the skills actually needed on the job.

Because only a limited number of students can be accommodated in I-Step, those interested are encouraged to apply two semesters in advance of the semester they intend to enroll. Applications may be obtained at the Teacher Clearance Office.

Preparation of Teachers of Indians. Secondary education majors are required to have an approved academic major and minor. There is no approved major or minor in secondary Indian emphasis.

As the student plans his total program, he should include the following courses from the general education and religion requirements.

	Hours
Anthrop. 105	3
Sociol. 112 or 389	3
Relig. 232 (Lamanite emphasis section)	2
Ed. 377	3

Interested students should consult with the Supervisor of Indian Teacher Education in the College of Education as early as feasible, certainly no later than

during the semester of enrollment in Ed. 301B, to plan for student teaching in public school classrooms with Indian students.

PREPARATION OF SEMINARY TEACHERS

Students interested in qualifying for teaching seminary must meet the following requirements:

1. Meet secondary certification requirements in the teaching field of your choice.
2. Complete the following courses:
Relig. 370. Introduction to Religious Education (2 hours religion credit)
Relig. 471. Teaching the Scriptures (2 hours elective credit)
3. Student teach in seminary one hour per day for six weeks. (Note: This does not count toward the student teaching requirements for state certification.)
4. Complete courses in religion in the following four areas:
Book of Mormon Relig. 121, 122
New Testament Relig. 211, 212
Old Testament Relig. 301, 302
Church History Relig. 341, 342, 444

Interested students should contact the Office of Seminaries and Institutes (A-285 ASB) for specific information.

SUBJECT-MATTER PREPARATION OF SECONDARY SCHOOL TEACHERS

Prerequisite for Student Teaching

- (1) A total college cumulative grade-point of 2.25 or higher is required, or a BYU cumulative grade-point average with not fewer than 32 semester hours completed of 2.25 or higher.
- (2) Completion of Ed. 301 and 377 (or departmental equivalent).
- (3) Completion of at least 15 semester hours in the teaching major and 10 semester hours in the teaching minor or 25 semester hours in the composite teaching major; and
- (4) Application for certification in the Teacher Clearance Office (TCO).

Certification Procedures

Students must not assume that certification is automatic once Item #4 above has been completed. Students have the responsibility to keep the TCO informed regarding progress toward certification. Any deviations from the certification program outlined in this catalog must be approved by the academic department chairmen and the College of Education. It is the student's responsibility to arrange for the preparation and circulation of the necessary memoranda initiating such action.

Each student should arrange for a personal review of his TCO file well in advance of registration for his final semester. This will assure that all requirements for certification are met. Completion of graduation requirements does not necessarily mean that certification requirements have been met.

Certification for Graduate Students

Students who have received a degree in an academic area, and who wish to obtain a secondary teaching certificate, should contact the Teacher Clearance Office (TCO) for specific information.

Second Certificate

Those possessing either an elementary or secondary certificate, and who wish to obtain the other, should contact the Teacher Clearance Office (TCO) for program guidance.

Teaching Major and Teaching Minor. The teaching major and the teaching minor consist of designated courses in subjects taught in Utah high schools. The

majors and minors are determined cooperatively by the subject-matter departments and the Department of Education. The following subjects are approved as teaching majors or minors (please note exceptions):

SECONDARY SCHOOL SUBJECTS ACCEPTABLE AS TEACHING MAJORS

Art	*Latin
Botany	Mathematics
Chemistry	Physical Education
Economics @	Physics
English	Political Science @
French	**Portuguese
Geography @	*Psychology @
*Geology @	*Russian
German	Sociology @
Health	Spanish
History	Speech-Drama
*Journalism (Communications)	‡Zoology
‡Major (minor in botany or chemistry or physical education only).	
‡Minor (major in botany or physical education only).	

SUBJECTS AND SERVICE AREAS ACCEPTABLE AS TEACHING MINORS

Any of the subjects listed as majors and
 Business Education (to include a combination of two of the following:
 shorthand, typing, accounting, business machines)
 **Computer Science and Statistics
 *Dance (Physical Education)
 *Driver and Safety Education
 Speech
 Drama

and the service area:

*Instructional Media

- Note:** (1) Subjects marked with an asterisk (*) are not commonly taught in Utah public schools. If a subject so marked is presented as a teaching major or a teaching minor, a subject not marked with an asterisk must be used to support it.
- (2) Subjects marked with a double asterisk (**) are now and are being reviewed by the State Certification Committee and have not, as yet, been approved. It is imperative that students check with the department chairmen concerned and the department of secondary education before beginning these programs.
- (3) Students desiring to use two subjects marked with @ in major-minor combinations should obtain prior approval of the chairman of the department of secondary education.

AREAS ACCEPTABLE AS COMPOSITE TEACHING MAJORS

Composite Teaching Major. A composite teaching major consists of work in three subjects in the same general field. One subject is designated as the dominant subject and the other two subjects are designated as the related subjects. For guidance in selecting and completing a composite teaching major, students must consult with the Teacher Clearance Office, whose responsibility it is, under co-operative advisement with the academic departments, to administer composite majors.

The following general fields may be used for composite teaching majors. With only those exceptions noted, any subject in the general field may be chosen as the dominant.

**Agricultural Education
 Art

- Biology (see Botany or Zoology listings)
- Business Education
 - **Distributive Education
 - Secretarial—Office Administration
 - Socio-Business
- Earth Science
- General Science
- Health and Physical Education
 - Dominant: Physical Education or Health Education
 - Related: Physical Education
 - Dance
 - Health Education
 - Driver and Safety Education
 - Recreation Education
- Home Economics
- **Humanities
- Industrial Arts
- Language Arts
 - Speech and Dramatic Arts
 - Dramatic Arts
 - English
 - Journalism
 - Speech
- Music
- Physical Science
 - Chemistry
 - Geology
 - Mathematics
- Social Sciences
 - Geography, History, and one of the following:
 - Economics
 - Political Science
 - Psychology
 - Sociology

Note: **The agricultural education, distributive education, and humanities composite majors are new and are being reviewed by the State Certification Committee and have not, as yet, been approved. It is imperative that students check with the chairman of the secondary education department before beginning these programs.

Courses Required for Teaching Majors, Teaching Minors, and Composite Teaching Majors

Agricultural Education (Composite Major—62 hours):

- Plant Sciences (20 hours)
 - Agron. 151, 282
 - Six hours from Hort. 102, 103, 351, 352, 412
 - Six hours from Agron. 302, 305, 308, 340, 351, 455; Hort. 340, 351, 352; Range Sci. 452.
- Animal Sciences (15 hours)
 - An. Sci. 153, 207
 - Electives to total 9 hours from the following courses:
 - An. Sci. 121, 221, 361, 362R, 208, 225, 311, 312, 325, 335, 340, 345, 374.
- Agricultural Economics (11 hours)
 - Agr. Econ. 112, 325, 410.
- Farm Mechanics (16 hours)
 - 16 hours from Indus. Tech. 125, 218, 317, 341; Drafting 111.

Note: Students must obtain prior approval of the department chairman and the chairman of secondary education.

Art:

57-Hour List (Composite Major): Starred (*) courses must be completed

before attempting upper-division work. Basic requirements: Art 120*, 121*, 122*. General requirements: at least 8 hours selected from 301, 308, 310, 403, 405, 406, 407, 408.

Dominant and supporting fields: The student will complete 16 hours in one of the following three groups as a dominant field and 12 hours in each of the other two fields.

1. Crafts and sculpture (plastic and graphic): Art 250*, 256*, 263*, 312, 350, 352, 356, 359, 362, 366.
2. Drawing and painting: Art 227*, 233*, 321, 322, 327, 333, 476, 580, 582.
3. Commercial art and interior design: Art 239*, 341, 341, 343, 444; Environ. Des. 225, 330, 331.

39-40-Hour List (Major): Starred (*) courses must be completed before attempting upper-division work except art history. Lower division: Art 120*, 121*, 122*, 227*, 233*, 239*, 250*, 256*, 263*. Upper division: Six hours of art history: Art 321 or 322; 327 or 333; 312 or 342 or 341; 356 or 359; and four hours of electives chosen from Art 310 or any class listed above but not previously elected by the student.

20-Hour List (Minor): Art 120, 121, 122, 227 or 233, 239, 256, 263, 301.

Botany:

Prospective biology teachers must complete either a botany major and a zoology minor or a zoology major and a botany minor. Ed. 377 and 479 are required for certification of all prospective biology teachers

Teaching Major (28 or 29 hours)

Bot. 101 or Bio. Agr. Ed. 201, Bot. 110, 205, 321, 331, 376, 440, 450, 491R, plus one of the following: Bot. 225, 335, 455, 460.

Required Supporting Courses:

Micro. 321; Math. 105, 106, or 111; Chem. 105, 106, or 101, 151.

Recommended Supporting Courses:

Agron. 282; Geog. 401; Geol. 111, 112; Chem. 151 or 351 and 353; Math. 112, 113; Stat. 221.

Teaching Minor (17 hours)

Bot. 105, 110, 440, and 7 hours from the following courses: Bot. 205, 225, 321, 450, 460.

Business Education (Composite Major—51 hours):

Distributive Education: The following courses will be required to satisfy the composite major requirements of business teachers majoring in business education with a distributive education emphasis:

Acctg. 201*, 202*.

Bus. Ed. 310*, 315, 320, 489.

Bus. Mgt. 241*, 256, 321, 455.

Econ. 101 or 111*.

Additional hours of elective business courses selected in consultation and with approval of student's major adviser to make a total of 51 hours. Some recommended elective courses are

Acctg. 301, 302, 342, 356.

Bus. Ed. 203, 206, 377**, 470.

Bus. Mgt. 200, 380, 381, 499.

Comput. Sci. 201.

Econ. 112.

Note: Students must obtain prior approval of the department chairman and the chairman of secondary education.

Secretarial-Office Administration: The following courses will be required to satisfy the composite major requirement of business teachers majoring in business education with a stenography-office administration emphasis:

Acctg. 201*, 202*.

Bus. Ed. 113, 203, 204*, 206, 220, 489, 305, 311*, 320, 370*.
Econ. 101 or 111*.

Additional hours of elective business courses selected in consultation and with approval of student's major adviser to make a total of 51 hours. Some suggested elective courses are

Acctg. 342.
Bus. Ed. 112, 377**, 411, 475, 485.
Bus. Mgt. 200, 247, 321, 380, 381.
Comput. Sci. 201, 331.
Econ. 112, 241, 274.
Geog. 231.

Socio-Business: The following courses will be required to satisfy the composite major requirement of business teachers majoring in business education with a socio-business emphasis:

Acctg. 201*, 202*, 356.
Bus. Ed. 203*, 220, 305, 320, 489.
Bus. Mgt. 200.
Econ. 101 or 111*, 112*.

Additional hours of elective business courses, including at least six hours from the Accounting Department and six hours from the Economics Department selected in consultation and with approval of student's major adviser to make a total of 51 hours. Some suggested elective courses are

Acctg. 342.
Bus. Ed. 204, 206, 370, 377*, 485.
Bus. Mgt. 241, or 341, 321.
Comput. Sci. 201, 331.
Econ. 241, 274.
Geog. 231.

*Must be completed before student teaching.

**Hours in excess of 3 hours required in professional education sequence may be counted as part of major requirements.

Note: The following are approved teaching minors for majors in fields other than business education:

Option A: Bus. Ed. 113, 311, 203, 220, 370, 377E, 377F.

Option B: Bus. Ed. 203, 220, 370, 310, 377A, 377F; and Acctg. 201.

Chemistry:

30-32-Hour List (Major): Chem. 111, 112, 113, 114 (or 105, 106, 223); 351, 352, 353 (2 hours); 461, 462, 464, 491, 594R (1 hour total); and either 514, 521, or 581.

18-19-Hour List (Minor, Dominant, or Related Subject): Chem. 111, 112, 113, 114 (or 105, 106, 223) plus any one of the following 8-hour sequences: Chem. 351, 352, 353 (2 hours); 461, 462, 464; 151, 384.

Computer Science and Statistics (19-20 hours): (This minor may be used only in conjunction with a mathematics teaching major.)

Computer Science (11-12 hours)

Required: Comput. Sci. 230, 331, 332.

Elective: Any computer science course except 101, 131, 333.

Statistics (8 hours): Stat. 221, 241, 336, 421.

Note: Students must obtain prior approval of the department chairman and the chairman of secondary education.

Driver and Safety Education: (Minor or Related Field Only) See course requirements under Health Sciences.

Earth Science (Composite Major—52 hours): All students majoring in earth science, wishing to obtain a teacher's certificate, must take the 52-hour composite emphasis. These hours must include the following list of courses with a minimum in each group as follows*: 20 hours in geology, 10 hours in

physics, 8 hours in chemistry, 4 hours in mathematics, 5 hours in geography, 6 hours in zoology, and 5 hours in botany. Courses are to be selected from the following list:

Geol. 111, 112, 311, 312, 313, 351, 352, 410, 460, 470, 480, 502**. (Geol. 104 is an acceptable substitute for 111 if 102 is also taken.)
 Physics 127, 137, and either 100, 101, or 211, 213, 214, or 201, 202.
 Chem. 105, 106.
 Math. 105, 106, 109, 111, 112, 113.
 Geog. 211, 401.
 Zool. 105, 344*.
 Bot. 110, 205*.

*Prospective earth science teachers are required to take these courses. Of these 11 required hours, 6 hours should be included as fulfillment of the general education biological science requirement.

**Required of those wishing to obtain the teacher's certificate.

Economics:

30-hour List (Major): Econ. 111, 112, 311, 312, 415 or 474, and 15 additional hours in economics courses numbered 300 or above.

20-hour List (Minor, Dominant, or Related Subject): Econ. 111, 112, 301 or 311, 302 or 312, and 8 additional hours in economics courses numbered 300 or above.

English:

35-Hour List (Major): Engl. 321, 251, 361 or 362, 371 or 372 or 373, 374 or 375, 382 or 382, 421, 490; at least two courses selected from the following: Engl. 332, 333, 335, 336, 341, 342, 343, 350, 359, 364, 366, 367, 380, 381, 383, 420, 450; Comp. Lit. 338, 355, 356 and upper-division English courses to total 35 hours. (Students are required to fill the B.A. requirements.)

Note: All English courses numbered in the 300, 400, and 500 levels may be counted toward the thirty-five-hour total except Engl. 377, 479, and 577. Engl. 377 and 479 count as education courses. Only the following courses numbered below 300 may be counted: Engl. 215, 218, 221 (321 is required), 251.

20-Hour List (Minor, Dominant, or Related Subject): Engl. 321, 275, 360, 370, and electives in English to total 20 hours.

French:

32-Hour List (Major): French 201, 301; 321, 322, 326, 411, 440, 445, 495, plus five hours chosen from 429 and courses on the 500 level.

20-Hour List (Minor): French 201, 301, 321, 326, 440, plus three or more hours chosen from 211, 311, 429, 445.

Note 1: Teaching majors and minors who do not demonstrate adequate proficiency in speaking the language will be expected to enroll for French 211 and 311. All teaching majors and minors in French must take French 377. Majors are encouraged to take Ling. 325.

Note 2: Classes up to and including French 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Clearance Office.

Geography:

32-Hour List (Major): Geog. 101, 102, 120, 211, 231, 450, 504, 598, and 11 additional hours to be selected from the following list **after consultation with a geography adviser:** Geog. 312, 401, 405, 441, 455, 460, 470, 475, 480, 501, 522, 533, 553.

20-Hour List (Minor, Dominant, or Related Subject): Geog. 101, 120, 211, 231, 450, 501, plus three elective hours from the major list above.

Geology:

30-Hour List (Major): Geol. 111, 112, 311, 351, 352, 502; and eight hours

selected from 312, 313, 410; or eight hours selected from 306, 460, 480, 510.

20-Hour List (Minor, Dominant, or Related Subject): Geol. 111, 112, 501, 502; and eight hours selected from 306, 460, 480, 510.

Geol. 104 is an acceptable substitute for 111 if 102 is taken also.

Note: Refer to earth science within the Geology section of the catalog for additional information.

German:

33-Hour List (Major): German 201, 301, 321, 322, 326, 377 (also counts as Ed. 377), 429, 442, 443 or 444, 445, 495, and Ling. 325.

21-Hour List (Minor): German 201, 301, 311, 321, 326, 411, 440. Students planning to do part or all of their student teaching in German must take German 377.

Note 1: Teaching majors who have not had foreign residence experience or who have not participated in the Semester in Salzburg Program are expected to enroll for German 311 and 411.

Note 2: Classes up to and including German 411 may be waived for students who claim two years of residence experience in German-speaking countries and who demonstrate proficiency in third-year German courses. The department chairman will attest to such proficiency in a written statement to the Teacher Clearance Office.

Health Sciences:

32-Hour List (Major): Health 121, 325, 381, 451, 460, 521, 552; FSN 115; Zool. 261, 262; Psych. 321; and at least 7 hours from the following courses: Health 501, 503, 530, 561, 660; Micro. 311; Sociol. 403, 580; Anthropol. 105; P.E. 344; Psych. 240.

28-Hour List (Dominant): Health 121, 325, 381, 460, 521; Zool. 261, 262; FSN 115; Psych. 321; and at least 7 hours selected from the following: Health 451, 501, 530, 552, 561; Psych. 240; and Sociol. 403.

20-Hour List (Minor): Health 121, 381*, 460, 521, and 11 hours selected from the following courses: Health 325, 451, 501, 530, 552, 561; FSN 115; Micro. 311; Psych. 240, 321.

* If required in student's major program, the health education minor will be 17 hours.

16-Hour List (Related): Health 121, 381, 460, 521, and 7 hours selected from the following courses: Health 325, 451, 501, 552, 561; Psych. 321; FSN 115.

16-Hour List (Driver and Safety Education Minor—Related): Health 121, 325, 443, 444, 445, and 4 hours selected from the following courses: Health 446, 460, 502, 530; Psych. 321. Student's program **must** be approved by Health Sciences Department adviser.

History:

31-Hour List (Major): Hist. 100, 110, 111, 170, 270 (those desiring the 120, 121 option should check with department chairman), 366, 488*, and 490*; plus sufficient hours from the list below to bring the total to 31 hours.

20-Hour List (Minor, Dominant, or Related Subject): Hist. 110, 111, 170, 270 (those desiring the 120, 121 option should check with department chairman), 366; plus sufficient hours from the list below to bring the total to 20 hours.

300, 302, 304, 307, 310, 311, 312, 313, 320, 322, 323, 326, 327, 329, 330, 331, 332, 333, 334, 335, 340, 341, 342, 343, 344, 345, 346, 347, 349, 351, 352, 360, 362, 364, 365, 370, 372, 375, 377, 378, 379, 381, 382, 384, 385, 387, 410, 433, 435, 436, 440, 453, 454, 481, 482, 488*, 490*, 497, 498.

*Formerly 388 and 400.

Home Economics Education (Composite Teaching Major):

55-56-Hour List: Home Ec. Ed. 101, 375, 489; CDFR 210, 322, 360, 361 or Sociol. 403; Nurs. 425; FSN 255, 264, 265, and 340; Environ. Des. 222;

FEHM 335, 350, 351, 370; Clo. and Text. 110, 165, 260; and electives 2-3 hours.*

21-Hour List (Professional education courses required of all students): Ed. 301B, 310, 415, 402; Health 362; Home Ec. Ed. 377, 479.

*Please consult a Department of Home Economics Education adviser for selection of a suitable course. (Clo. and Text. 355, Tailoring, recommended.)

Humanities (Composite Major—56-58 Hours):

Humanities majors must select one of the following dominant fields:
English, 20-Hour List.

Foreign Language: 20-hour list in either German, Russian, French, Spanish, or Latin. Students selecting foreign language as the dominant area must complete 12 hours of literature courses on the 400 (senior) level.

In addition to the dominant field, all humanities majors must complete the following:

Art: 7 credit hours.

English: 8 credit hours of literature courses (for students with a foreign language dominant area).

Foreign language: 6 credit hours of literature on 400 (senior) level (for students with English dominant area).

History: 6 credit hours.

Humanities: 9 credit hours, including Hum. 201, 202, 490.

Music: 5 credit hours, selected from Mus. 101, 103, 484, 485.

Philosophy: 3 credit hours, Phil. 110.

In those areas where specific courses are not listed, the student must clear with his adviser in the Department of Humanities and Comparative Literature.

Note: Students must obtain prior approval of department chairman and the chairman of secondary education.

Industrial Education (Composite Teaching Major):

The core list of courses is required for either the general or specialized program.

Core List: Drafting 111; Indus. Ed. 100, 101, 129, 250, 260, 289, 405, 460, 470, 535**, 540**; Art 110*; Math. 121*; physics or chemistry, 3 hours*.

*Satisfies general education requirements.

**May be reserved for graduate credit if taken last semester before graduation.

General Shop Technical Electives—24 Hours.

Junior High School and Senior High School General Shop Emphasis: The 24 hours of technical electives will include Art 212 (2) and the balance (22 hours) will be distributed equally among a minimum of 4 of the technical areas (the minimum in any area to be 5 hours or 2 classes) thereby providing the balance of breadth and depth desirable for general shop teachers.

Crafts: Indus. Ed. 360, and the balance from Indus. Ed. 160, 493B; Art 250, 259, 263, 359.

Drafting and Design: Drafting 355 and the balance from Drafting 210, 211, 410.

Electricity and Electronics: Engr. Tech. 102, and the balance from Indus. Tech. 242, 341. Delete Indus. Ed. 101 from the core if you select this sequence and select an additional 3 credits from electricity and electronics.

Graphic Arts: Indus. Tech. 351 and the balance from Indus. Tech. 451, 452, 453.

Metals: Indus. Ed. 130, 139, 326; Indus. Tech. 325. Delete Indus. Ed. 129 from the core when the metals sequence is selected.

Power: Indus. Ed. 389 and the balance from Indus. Ed. 189, 387, 388, 489.

Woods: Indus. Ed. 105, 210, and the balance from Indus. Ed. 200, 300, 319; Indus. Tech. 211, 301, 337.

Specialized High School Emphasis Electives—24 Hours.

The 24 hours of technical electives will be distributed equally between two of the technical areas (the minimum in any area to be 12 hours), thereby providing the balance of breadth and depth desirable for high school industrial arts teachers.

If the chosen technical areas both require Art 312, credit Art 212 to **one** area and select an elective course in the other technical area to replace Art 212.

Crafts: Indus. Ed. 360; Art 212; and the balance from Indus. Ed. 160, 493; Art 259, 263, 359, 366.

Drafting and Design: Drafting 211, 355; Art 212; and the balance from Drafting 210, 256, 356, 410, 411.

Electricity and Electronics: Engr. Tech. 102 and the balance from Indus. Tech. 242, 341; Engr. Tech. 221, 231, 232, 234, 235. Delete Indus. Ed. 101 from the core if you select this sequence and select an additional 3 credits from electricity and electronics.

Graphic Arts: Indus. Tech. 351 and the balance from Indus. Tech. 451, 452, 453; Indus. Ed. 494.

Metals: Indus. Ed. 130, 139, 326; Indus. Tech. 325, and the balance from Indus. Ed. 329; Indus. Tech. 120, 125, 231, 332, 335, 337. Delete Indus. Ed. 129 from the core if you select this sequence and select an additional 3 credits from metals.

Power and Auto: Indus. Ed. 389, and the balance from Indus. Ed. 189, 387, 388, 489, 495; Indus. Tech. 336.

Woods: Indus. Ed. 105, 210; Art 212 and the balance from Indus. Ed. 200, 300, 319; Indus. Tech. 211, 301, 337.

Technical Teacher Program

This program provides considerable depth in one technical area, with extensive supporting work to be taken in related areas of science and mathematics. It is designed to prepare teachers for posthigh school technical programs. General requirements are as follows:

	Minimum Semester Credit Hours
1. A prescribed two-year technical program approved by the department	64
2. Selected and approved advanced technology courses in the specialty area	12
3. Additional general education and group requirements specified by the University for the baccalaureate degree	26
4. Professional education courses	23
6. Professional industrial education courses	6
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Upon registration or when otherwise requested, each undergraduate student will be supplied with a suggested sequence of courses based upon his prior preparation and particular needs. Adjustments can be made as they become necessary during the program in consultation with an adviser.

Certification: In order to be recommended for certification, students must have their programs, including adjustments, approved by the Teacher Clearance Office.

Instructional Media (Minor—16 Hours):

LIS 413, 429, 539, 557.

Ed. 406 and 5 hours from Ed. 510, 520, 524, 526; Engl. 420; LIS 423.

Journalism (Communications):

30-Hour List (Major): Commun. 101, 211, 230, 255, 307, 312, 323, 480; eight hours selected from Commun. 201, 331, 346, 363, 365, 371, 427, 451, 456, 491, 520, 528, 535, 550. (An internship, Commun. 495, may be substituted for Commun. 323.)

20-Hour List (Minor, Dominant, or Related Subject): Commun. 101, 211, 312,

323, 480; five hours selected from Commun. 201, 230, 255, 307, 365. (Commun. 495, an internship, may be substituted for Commun. 323.)

Latin:

32-Hour List (Major): Latin 201, 301, 321, 322, 431, 432, 441, 442; Classical Civilization 341 and 442; and one course from Latin 429, 490R, 521, 561, or 562.

20-Hour List (Minor): Latin 201, 301, 321, 431 or 432, 441 or 442, 490; Classical Civilization 341.

Mathematics:

32-Hour List (Major):

Required: (a) Math. 112, 113, and 214; or Math. 141, 142, 243, and 244.

(b) Math. 301, 302, 371, 451.

Electives: A minimum of nine semester hours selected from Math. 210, 300, 332, 372, 385, 387, 411, 412, 434, 452, 541, 542, 551, 552.

20-Hour List (Minor): Math. 112, 113, and 214; or Math. 141, 142, 243, and 244; Math. 301, 302, and either 371 or 451.

Music Education:

59-Hour List (Composite Music Education Major): Mus. 103*, 165 (for voice specialty only), 191, 192, 193, 194, 202, 291, 292, 363**, 364**, 367, 368, 370, 372, 375, 376, 378, 472, 481, 484*, 485*; complete six hours of ensemble, twelve hours of private instruction in the student's applied specialty, and pass a piano proficiency requirement equivalent to four semesters of piano before student teaching.

Note: Please refer to Department of Music requirements in this catalog for recital and ensemble requirements. *These courses are included in general education.

**For students with instrumental specialties only. Those students taking voice as a specialty should take Mus. 566 instead of Mus. 363 and 364.

Physical Education—Men:

Major—Required Courses: P.E. 180, 181, 330, 231, 232, 233, 234, 235, 236, 237, 341, 344, 378, 413, 446, 464; two of the following: 370, 371, 372, 373, 374. Elective courses, 10 hours, must be taken from the following: P.E. 250, 264, 265, 280, 286, 314 (370, 371, 372, 373, 374)*, 406, 547, 449; Health 381; Rec. Ed. 570.

*Only two of the following can be included with the 10 hours, i.e., two within parentheses.

60-Hour List (Composite Major): A composite major consists of 29 semester hours in physical education and 16 semester hours in each of two of these related fields: health education, driver and safety education, recreation, and dance.

Dominant (29 Hours): Two of the following: P.E. 180, 181, 182; 330; 231, 232, 233, 234, 235, 236, 237; 341, 344; 378, 413, 446, 464; two of the following: P.E. 370, 371, 372, 373, 374.

Related (16 Hours): P.E. 330, 341, 344; three of the following: P.E. 231, 232, 233, 234, 235, 236, 237; two of the following: P.E. 370, 371, 372, 373, 374.

Note: The above 16-hour related courses may not be taken with the 29-hour dominant.

Minor: P.E. 180, 181, or 182, 235, 330, 341, 344; two of the following: P.E. 231, 232, 233, 234, 236, 237; two of the following: P.E. 370, 371, 372, 373, 374; one of the following: P.E. 314, 413, 446, 464.

Physical Education—Women:

Note: The following courses are prerequisites to required major courses and will help meet the requirements of the general education program: P.E. 180, 181, 187, 188; Zool. 105, 261, 262. Speech and Dram. Arts 102 and 121 are recommended by the state for certification and will fill the humanities requirements in the general education program. Health 381

is strongly recommended for those planning to teach in the secondary schools.

40-Hour List (Major): All women students majoring in physical education are to take the courses listed in the core program. In addition, they must choose either a sports or a dance emphasis.

Core Program: P.E. 241, 242, 243, 244, 286, 330, 341, 344, 378W, 388, 446; either 375 or 376; Health 121.

Sports Emphasis: Swimming (1 hour); P.E. 207, 245, 461, 472; any two of the following: Youth Ldrship. 378; P.E. 314 or 413; Health 381.

Dance Emphasis: P.E. 185, 186, 287, 288, 380, 383, 387, 389, 486.

60-Hour List (Composite Major—Certification): A composite major consists of 28 semester hours in physical education and 16 semester hours in each of two of these related fields: health education, driver and safety education, recreation, and dance.

Dominant (28 Hours): P.E. 207, 241, 242, 243, 244, 245, 286, 330, 341, 344, 376, 378, 378W, 446.

Sports Related (16 Hours): P.E. 286, 330, 341, 376; three of the following: 241, 242, 243, 244, 245; and 1 hour of P.E. elective.

Dance Related (16 Hours): P.E. 180, 183, 185, 186, 286, 287, 288, 380, 383, 387, 388, 389, 486.

Undergraduate Minor Requirements:

20-Hour List (Sports Emphasis—Certification): P.E. 286, 330, 341, 376; swimming (1 hour); Health 121 or Youth Ldrship. 378 if health major; four of the following: P.E. 241, 243, 244, 245.

P.E. 378W must be successfully completed if a physical education-sports emphasis minor is to be assigned to student teaching in this minor.

20-Hour List (Dance Emphasis—Certification): P.E. 185, 186, 286*, 287, 288, 330, 380, 383, 387, 388, 389, 486; and one from the following: P.E. 241, 242, 243, 244, 245.

*Physical education-sports emphasis majors substitute P.E. 283, 284, or 285. P.E. 378W must be successfully completed if a physical education-dance emphasis minor is to be assigned to student teaching in this minor.

Physics: (See also B.A. and MA-3 programs in Physics and Astronomy Department.)

25-Hour List (Major): Physics 121, 122, 221 (or 211, 213), 222, 214, 316, 300, 321, 322 (341 and 386 may be substituted for 322).

17-Hour List (Minor, Dominant, or Related Subject): Physics 121, 122, 221 (or 211, 213), 214, 316, 300.

Political Science:

30-Hour List (Major): Required introductory courses: Pol. Sci. 110, 150, and 170. Required upper-division courses: Pol. Sci. 300 (normally taken before other upper-division courses), 402, plus at least two 500-level electives. Electives to complete the major should be balanced among the following fields, selected in consultation with an adviser: Political theory and philosophy—506; American political system—310, 311, 330, 360, 361, 423, 510, 514, 520, 523, 525, 563, 568, Hist. 385; Comparative political systems—350, 355, 359, 380, 457, 549, 551, 552, 553, 556, 557, 558, Geog. 441; International politics—370, 371, 375, 380, 570, 572, 573, 575, 576, 578, 580, Hist. 384.

20-Hour List (Minor): Required introductory courses: Pol. Sci. 110, 150, and 170. Required upper-division courses: Pol. Sci. 402, plus at least one 500-level elective. Electives to complete the minor should be balanced among the fields listed above.

Portuguese:

32-Hour List (Major): Portuguese 201, 301, 321, 322, 326, 431, 432, 445, 521 or 522; plus five hours from among the following: 311, 490, 491, 521 or 522, 552, 553, and Ling. 325.

20-Hour List (Minor): Portuguese 201, 301, 321, 326, 431 or 432; plus 4 hours from the following: 311, 445, 490, 491, 522.

Note: Classes up to and including Portuguese 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Clearance Office.

Note: All students who use Portuguese as a major or minor should take a 377 class from one of the language departments where language teaching methodology and materials are emphasized. It is highly recommended that a second foreign language complement either the major or the minor in Portuguese.

Students must obtain prior approval of department chairman and the chairman of the secondary education department.

Psychology:

30-Hour List (Major): Psych. 111; 321; 369, or 370 and 374; 491R or 498; one of the following: 240, 440, or 445; and three of the following courses: Psych. 360, 365, 450, 460; the remaining credit hours selected from the following: Psych. 211, 320, 322, 330, 336, 337, 350, 357, 360, 362, 365, 369, 370, 374, 378, 450, 454, 460, 478, 491R, 495, 498.

20-Hour List (Minor, Dominant, or Related Subject): Psych. 111, 321, 369, and one of the following: 440, 445, or 450; the remaining credit hours selected from the following: Psych. 211, 240, 320, 322, 330, 336, 337, 350, 357, 360, 362, 365, 370, 374, 378, 450, 454, 460, 478, 491, 495.

Recreation Education: Physical education—for composite majors using recreation courses.

16-Hour List (Related Subjects): Rec. Ed. 301, 337, 371, 387, 388, 407, 505.

Russian:

31-Hour List (Major): Russian 201, 211, 301, 311, 312, 321, 322, 326, 441, 442, 445.

21-Hour List (Minor): Russian 201, 211, 301, 311, 321, 441 or 442, 445.

Note: It is strongly recommended that teaching majors take Ling. 325. All students who intend to qualify for a teaching certificate must take Russian 377.

Note: Classes up to and including Russian 301 may be waived for students who demonstrate proficiency in the foreign language. The department chairman will attest such proficiency in a written statement to the Teacher Clearance Office.

Sociology:

30-Hour List (Major): Sociol. 111, 112, 220 or 320, 350, 397, 403, 404, 405, 512, and the remaining hours selected from the following: Sociol. 125, 210, 215, 316, 348, 357, 360, 362, 364, 380, 383, 386, 389, 420, 423, 426, 446, 449, 460, 470, 480, 491.

20-Hour List (Minor, Dominant, or Related Subject): Sociol. 111, 112, 405, 512, and nine hours selected from the major list above.

Note: Sociol. 320 requires a prerequisite of Math. 105 or its equivalent.

Spanish:

32-Hour List (Major): Spanish 201, 301, 321, 322 or 439, 326, 441, 445, 451; plus 5 credit hours selected from the following: 311, 351, 454, 458, 470, 485, 490, 491, 492, 495, 520, 521, 522, 556, 580, 581, 584, and Ling. 325.

20-Hour List (Minor): Spanish 201, 301, 321, 326, 441 or 451, 445.

Note: It is strongly recommended that teaching majors and minors who have not had foreign residence or participated in a semester abroad program take Spanish 311. All teaching majors and minors in Spanish must take Spanish 377.

Note: Classes up to and including Spanish 301 may be waived for students who demonstrate proficiency in the foreign language. The department

chairman will attest such proficiency in a written statement to the Teacher Clearance Office.

Speech and Dramatic Arts:

Those students wishing to major or minor in speech and dramatic arts and obtain a secondary teaching certificate must complete the following courses for a major or minor:

33½-Hour List (Major): Speech and Dram. Arts 101, 111, 115, 121, 123, 305, 309, 319, 325, 371, 401, 460, 461, 521; P.E. 183T.

Electives: Select a minimum of 2 hours from the following courses: Speech and Dram. Arts 126, 311, 402, 403, 491, 523, 525, 564, 565.

Minors: Speech and Dram. Arts, 21 hours: Speech and Dram. Arts 101, 111 or 305, 115, 121, 319, 325, 371, 460, 461.

Dramatic Arts, 19.5 hours: Speech and Dram. Arts 101, 115, 121, 123, 126, 319, 460, 461; P.E. 183T.

Electives: Select a minimum of 2 hours from the following courses:

Speech and Dram. Arts 333, 360, 362, 572, 578. Speech, 20 hours: Speech and Dram. Arts 101, 111, 121, 305, 309, 371, 401, 491, 521.

Zoology:

32-33-Hour List (Major): Bio. Agr. Ed. 201; Zool. 202, 203, 321, 325, 331, 376, 451, 465, or 466; plus one of the following: 344, 363, 380, 483.

18-Hour List (Minor): Zool. 202, 261, 262, 331, 344.

Note: Prospective biology teachers should complete either a zoology major and a botany or chemistry minor, or a botany major and a zoology minor. Zoology majors with a minor in chemistry are required to take Bot. 105 and 205. It is **strongly** recommended that those students minor-ing in chemistry take Micro. 321, 322; Bot. 460 or Zool. 357; Geol. 103. Those students with a teaching major in physical education or health sciences should also take Bot. 105, 205, and 460. Ed. 377 and 479 are required for certification of all prospective teachers of biology, botany, or zoology.

Courses

(Special education courses are included in numerical order in the listing of courses for the College of Education below.)

206. Material Preparation and Equipment Operation in Instructional Media. (2:1:3) Su. Card, Walker

Designed for teachers' aides, media-support personnel, and library technicians and other noneducation majors.

301A. Basic Concepts and Principles of Teaching. (2:2:1) F.S.Su. Home Study also. Prerequisite: GPA 2.25. Person must have passed Grammar and Spelling Test for Teachers or English ACT with a score of 20 or above.

Bowles, Campbell, Winterrose

For potential elementary teachers. An exposition of a simple and operational concept of teaching, consisting of three elements: the objective, the learning experience, and receptiveness to learning.

301B. Basic Concepts and Principles of Teaching. (1-2:1-2:1) F.S.Su. Home Study also. Prerequisite: GPA 2.25. Person must have passed Grammar and Spelling Test for Teachers or English ACT with a score of 20 or above.

W. Allred, Arnoldsen, Baird, Belt, Webb

For potential secondary teachers regardless of level or field. An exposition of a simple and operational concept of teaching, consisting of three elements: the objective, the learning experience, and receptiveness to learning.

310. The State, the School, and the Teacher. (2:2:0) F.S.Su. Home Study also. Henderson

Understanding the school and its relationship to the community, the state, and the nation; how schools are organized and administered, with emphasis on Utah school organization and Utah school laws.

- 340. Children's Literature.** (2:2:0) F.S.Su. Home Study also. Bowles, Winterrose
Evaluation of significant books, past and present, that meet children's needs.
- 360. Education of Exceptional Children.** (2:2:1) Gale, Pinegar, Thomas
A general course designed to acquaint the student with the causes, recognition, incidence, and characteristics of all types of exceptional children. Designed to meet needs of both classroom teacher and person going into special education.
- 377. Secondary Teaching Curriculum and Methods.** (3:3:1) F.S.Su. Prerequisite: Ed. 301. Arnoldsen, Asay, Belt, Holder
Identification of teacher and pupil activities required for conceptual learning and for each of the following types of subject matter and teaching: symbolic, performance ability, and habit. Lectures, demonstrations, and participation in noninstructional activities at a high school. (Students should arrange their class schedules to permit approximately 14 hours for directed observation and participation during the 8:00 a.m. hour through the 3:15 p.m. hour.) Students interested in Indian education should register in a specially-designated section.
- 402. Educational Psychology.** (2:2:0) F.S.Su. Home Study also. Prerequisites: Ed. 420, 449; CDFR 210. G. Harrison, Keele
Psychological facts, principles, and concepts related to the teacher-learning situation are covered.
- 403. Development and Learning.** (4:4:0) F.S.Su. Home Study also. Prerequisite: Ed. 449 or 479. G. Harrison, Keele
Designed to give the student an understanding of the psychological facts, principles, and concepts related to the teaching-learning situation. Attention is given to such topics as the learning process, readiness, individual differences, motivation, and evaluation.
- 406. Introduction to Production and Utilization of Instructional Media.** (2:2:1) F.S.Su. Brown, Wadham
- 415. Educational Values.** (2:2:0) F.S.Su. Home Study also. Harmon, Keele, Romney, Thomson, Wolfgramm
An analysis of educational values and how teachers can help students clarify what they value and why.
- 420. Curriculum and Methods in the Elementary School.** (4:4:0) F.S.Su. Prerequisite: Ed. 301.
Content, practices, and classroom procedures in the modern elementary school.
- 421. Teaching Reading in the Elementary School.** (3:3:1) F.S.Su. Home Study also. Prerequisites: Ed. 301, 420, 449. R. Allred, Sucher
Foundations in reading instruction, methods, materials, and aids for teaching reading in the elementary school. Lab required.
- 422. Kindergarten Education.** (2:2:1) F.S. H. Clark, Cutler
The study of programs, materials, teaching techniques, and learning experiences in kindergarten education.
- 423. Teaching Science and Social Studies in the Elementary School.** (2:2:0) F.S. Su. Prerequisites: Ed. 301, 420, 449. Berryessa, Ord, Winterrose
Materials and methods used in teaching science and social studies in the elementary schools.
- 424. Teaching Language Arts in the Elementary Schools.** (2:2:0) F.S.Su. Prerequisites: Ed. 301, 420, 449. R. Allred
The place of language arts in the elementary school curriculum, with the materials and techniques necessary for teaching them.

- 425. Methods and Procedures of Teaching Mathematics in the Elementary School.** (2:2:0) F.S.Su. Prerequisites: Ed. 301A, 420, 449. C. Clark, Nelson
Attention is directed to the mathematical ideas which underlie the program. Particular stress is given to effective experience for teaching mathematical concepts and skills, including procedure for attacking mathematical and word problems.
- 427. Readiness and Beginning Reading.** (2:2:0) F.S.Su. Prerequisites: Ed. 301, 420, 449. Daines, Sucher
- 430. Teaching Foreign Language in the Elementary School (FLES).** (3:3:Arr.) Prerequisites: Ed. 301A, and modern language course 322 or equivalent in the language minor. Bishop
Will consider second-language learning, methods and techniques, preparation and use of audio-visual media, use of television, evaluating student progress, articulation, current research, and literature.
- 449. Elementary Student Teaching.** (2-10:0:20-40) F.S. Prerequisite: Ed. 301A; Math 305; Art 326; Mus. 226, 337; Ed. 324 or 325, 340. Puckett
Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. Seminar on student teaching problems is held weekly. (A laboratory fee of \$45.00 is charged, payable upon application for student teaching.)
An application for a specific assignment must be filed with the Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in cocurricular activities, and keep in close contact with the faculty and students in a public school, as well as to participate in seminars and conferences with their supervisors. During this period of student teaching, the student must limit his load to the student teaching registration only.
- 461. Introduction to Teaching the Mentally Retarded.** (2:2:1) F.S.Su. Home Study also. Prerequisite: Ed. 360. Pinegar, Thomas, Wilson
Introductory course in education of mentally retarded children; study of classification and characteristics of the retarded; and general problems in their care, management, and education.
- 462. Introduction to Teaching the Visually Handicapped.** (2:2:0) F.Su. Craig
Introductory course in education of visually handicapped children; study of their identification, classification, and characteristics, and general problems in their care and education.
- 463. Standard English Braille.** (3:3:0) F.Su. Craig
Systematic presentation of Standard English Braille for those who intend to teach the visually handicapped or do volunteer transcribing. Not a course in touch reading.
- 464. Arts and Crafts for the Handicapped.** (2:2:1) F.Su. Wilson
Arts, crafts, and related activities as they may be adapted to meet the needs of individuals with disabilities.
- 465. Introduction to Teaching the Physically Impaired.** (2:2:1) F.Su. Prerequisite: Ed. 360. Wilson
Introductory course for teachers of the physically handicapped; types and causes of physical impairment in children; and general problems of care and education of these children.
- 469. Methods of Teaching Elementary School Subjects to the Hearing Impaired.** (3:3:0) S. Prerequisites: Speech and Dram. Arts 271; Ed. 360 and 467.
Techniques used in teaching reading, arithmetic, social studies, science, and elementary school subjects to children with impaired hearing.
- 470. Education-Community Relationships for Exceptional Children.** (2:2:1) F.S.Su. Prerequisite: Ed. 360. Gale, Pinegar, Thomas
A course designed to acquaint the student with problems of exceptional

children. Vocational planning, and school, community, and parent relationships are considered.

477. **Micro-Teaching (Secondary).** (1-4:0:2-8) F.S.Su. Prerequisite: Ed. 301B.
Baird, Belt, Holder, Webb

Use of and practice in the techniques of micro-teaching. A methods course to complement student-teaching and other secondary methods.

479. **Secondary Student Teaching.** (4-8:1:20-40) F.S. Prerequisites: Ed. 301, 377.
Puckett

Designed to develop readiness for full comprehension of the principles of teaching and the remaining subject-matter and education courses. Special attention to on-the-job lesson planning and unit organization. (A laboratory fee of \$45.00 is charged payable upon application for student teaching.)

An application for a specific assignment must be filed in the Student Teaching Office one semester in advance of receiving an assignment. Student teachers are expected to do responsible teaching, participate in co-curricular activities, and keep in close contact with the faculty and students in a public school as well as to participate in seminars and conferences with their supervisors. During this period of student teaching, the student must limit his load to the student teaching registration only.

- 490, 491. **Seminar.** (1-2:1-2:0 ea.) F.Su. Talbot

- 493, 494. **Independent Reading.** (1-2:1-2:0 ea.) F.S.Su. Babcock

506. **Instructional Media in the School Program.** (3:2:3) F.Su. Card, Snow, Walker

Introduction to application of instructional media. Principles of evaluation, selection, utilization of instructional media. Develops skills in materials production. Attention given to utilization of instructional media centers.

510. **Media Production Techniques.** (2:1:3) F. Prerequisite: Ed. 506.
Brown, Card, Snow

An in-depth exploration of the various tools and techniques appropriate to the production of instructional materials.

- 514A,B,C,D,E,F. **Analysis of In-Service Problems.** (1-3:1-3:1 ea.) F.S.Su.

Designed to provide professional assistance to in-service teachers in analyzing and solving educational problems. Content for a specific semester's offering will be selected from a range of possible emphases. A—Elementary Curriculum; B—Secondary Curriculum; C—General Curriculum; D—Curriculum Innovations; E—Instructional Media; and F—Reading.

515. **Analysis of In-Service Problems.** (1-3:1-3:1) F.S.Su.

Analysis of educational problems outside the areas of curriculum and instruction.

520. **Photography in Instruction.** (2:1:3) S. Prerequisites: Ed. 506; Commun. 363.
Card, Fotheringham

The processes, techniques, and equipment applicable to the preparation of photographic instructional materials.

524. **Art and Graphic Processes in Instruction.** (3:2:3) F. Prerequisite: Ed. 506 or consent of instructor.
Card, Fotheringham, Lee

Preparation of instructional materials or reproduction masters using art and graphic processes.

526. **Instructional Use of Audio Programs.** (2:1:3) S.Su.
Card, Jensen, Kennard, Walker

Design, development, and utilization of audio materials and systems for large- and small-group and individual learning.

534. **Innovative Practices in the Elementary School.** (3:3:1) Su. Berryessa, Ord

536. **Secondary Curriculum and Methods: Introduction.** (3:3:0) F.S.Su. Baird, Belt

Analysis of differences among the various curriculum and instructional patterns, emphasizing their impact on individualized learning.

- 547. Foundations in Reading.** (3:3:0) F.S.Su. Daines, Sucher
A consideration of the various approaches to reading. A detailed study of readiness for reading and the different techniques of word recognition as developed in kindergarten through grade twelve.
- 549. Directed Observation in the Secondary School.** (2:0:4) F.S.
Directed observation with secondary school pupils. Required for speech therapists who do not have secondary certificates; recommended for teachers who are recertifying and others.
- 550. Introduction to Guidance Services.** (2:2:0) F.S.Su. Home Study also. Downing, Reid
Principles and practices of pupil personnel services in the public schools. Designed for prospective teachers of both elementary and secondary levels. Required but may not be counted as part of the 30 hours for the master's degree by students majoring in this area of specialization.
- 551. Evaluation of Educational and Psychological Literature.** (2:2:0) S.Su.
Research literature in education and psychology, with emphasis on interpretation. Application of nonempirical techniques by preparing prospectus for field project.
- 560. Educational Tests and Measurements.** (3:3:0) F.S.Su. Home Study also. Prerequisite: Stat. 552 or 501 or Psych. 670. Harris
Principles of test construction and use. Interpretation of standardized tests.
- 562. Problems and Methods in the Education of the Visually Handicapped.** (3:3:0) S.Su. Prerequisites: Ed. 462, 463. Craig
Problems confronting administrator and teacher in the different types of school programs now available for the visually handicapped. Specialized teaching methods and materials.
- 563. Advanced Braille.** (2:2:0) Craig
Study of the "Nemeth Code of Braille Mathematics and Scientific Notation" and of transcription formats and techniques.
- 565. Problems in the Education of Emotionally Handicapped Children.** (3:3:1) S.Su. Prerequisites: consent of instructor, Ed. 360. Brown, Gale, Pinegar
Organization of educational programs, curricular development, and teaching methods for students with emotional problems.
- 566. Problems in the Education of Orthopedically Handicapped Children.** (3:3:1) F.S.Su. Prerequisites: Ed. 360, 465. Wilson
Problems of identification, diagnosis and placement, organization of educational programs, curriculum development, and teaching methods for students with orthopedic handicaps, including the homebound and hospitalized.
- 567. Problems in the Education of Mentally Retarded Children.** (3:2:2) F.S.Su. Prerequisites: Ed. 460, 461. Pinegar, Thomas, Wilson
Problems of identification, diagnosis and placement, organization of educational programs, curriculum development, and teaching methods for classes for mentally retarded students.
- 568A,B,C,D,E. Observation and Participation in Special Education.** (2:1:4 ea.) F.S.Su. Prerequisite: consent of instructor.
A—Mentally Retarded; B—Orthopedically Handicapped; C—Visually Handicapped; D—Emotionally Disturbed; E—Hearing Impaired.
Observation and participation in classes for handicapped children. Designed to develop readiness for practicum experience. A laboratory fee of \$15.00 is charged, payable upon application for student teaching.
- 569A,B,C,D,E. Practicum in Special Education.** (2-4:0:5-10 ea.) Prerequisite: consent of instructor.
A—Mentally Retarded; B—Orthopedically Handicapped; C—Visually Handicapped; D—Emotionally Disturbed; E—Hearing Impaired.
A laboratory fee of \$15.00 is charged, payable upon application for student teaching.

570. **Problems in Education of Children with Neurological Impairment.** (3:3:0) F.Su. Prerequisite: Ed. 360 or consent of instructor. Wilson
Principles and special techniques and materials for teaching children with learning disabilities related to neurological impairment.
572. **Educational Evaluation of Communication Disabilities.** (2:2:4) Low, Pinegar, Wilson
Principles and practices of evaluating communication disabilities of children, with emphasis on prescribing education-habilitation procedures. Designed for graduate students in special education, speech pathology-audiology, and other school specialists.
573. **Workshop for Teachers of Bilingual Children.** (2-8 hrs./day for 2 weeks) Su.
Study of educational needs, materials, and methods appropriate to the background and language problems of bilingual students.
578. **Practicum for Elementary Teaching.** (2-4-8:2-4-8:5-10-20)
579. **Practicum for Secondary Teaching.** (2-4-8:2-4-8:5-10-20)
601. **Comparative Current Educational Philosophy.** (3:3:0) F.S.Su. (m) Alley, Harmon, Romney, Thomson
603. **Educational Classics and Contemporary Issues.** (3:3:0) F. (m) Harmon
606. **History of Education in Europe and America.** (4:4:0) S.Su. (m) Alley, Wolfgramm
607. **Education in a World Setting.** (2:2:0) S. Romney
An examination of the historical, economical, psychological, and political foundations of contemporary, international education.
608. **Social Foundations of Education.** (3:3:0) F.S.Su. (m) Clarke, Harmon
A study of social institutions and the effects they have on the education of young Americans.
609. **Selection and Utilization of Audio-Visual Materials.** (2:2:0) F.S.Su.
Students are taught the unique contributions of each audio-visual material, methods of selecting nonbook materials, proper utilization of the items of a teaching situation, and familiarity with various types of instructional materials. The building of a proper collection of audio-visual materials for a school media center is also examined.
610. **Designing and Producing Instructional Materials.** (2:2:1) F.Su. Prerequisites: Ed. 510 and Psych. 460 or consent of instructor.
Designing and producing instructional media kits or projects.
611. **Administering Instructional Media.** (2:2:0) Su.
Explores the history of the media fields and examines their relationships, current trends, philosophy, and their roles in education today. The various administrative techniques and actual practices in the media field are examined. Students are required to develop and outline a media program for a local school and typical school district.
612. **Supervision of Student Teachers.** (2:2:0) Su.
For those desiring a well-rounded view of the student-teaching program.
622. **Advanced Study in Childhood Education.** (2:2:0) Su. Daines
Educational theory and analysis of current practices in schools as they are related to the significance and problems of early childhood education.
623. **Science in the Elementary School.** (2:2:0) S.Su. Berryessa
Teaching of modern elementary science, with emphasis on individualized instruction.
625. **Social Studies in the Elementary School.** (2:2:0) S.Su. Berryessa, Ord
The scope and sequence of the social studies program, its objectives in developing democratic citizenship, and the methods employed in accomplishing this aim.

- 626. Classroom Procedures in the Elementary School.** (3:3:0) Su. Ord
For nonelementary education majors.
- 627. Reading in the Curriculum.** (2:2:0) F.S.Su. Daines, Sucher
Reading in the different content areas. Study of comprehension and study skills as developed in kindergarten through grade twelve
- 628. Children's Literature.** (2:2:0) S.Su. Prerequisite: Ed. 340.
Study of the history, authors, illustrators, and types of children's literature. Exploring and evaluating new books for children. Special attention to reading interests at various age levels.
- 631. Curriculum Development in the Elementary School.** (3:3:0) F.Su. Daines, Harmon
Principles and procedures for organizing the instructional program; patterns of curriculum organization; and techniques for change, evaluation, and stabilization of curriculum.
- 632. Research and Literature in Reading.** (2:2:0) S.Su. Prerequisites: Ed. 547 and 627. Daines, Sucher
Study of the history of reading. Emphasis placed on the research and current literature in the teaching of reading from kindergarten through grade twelve.
- 633. Language Arts in the Elementary School.** (2:2:0) F.Su. Daines
Best practices in modern methods of instruction in listening, speaking, and writing with their related skills.
- 634. Arithmetic in the Elementary School.** (2:2:0) Su. C. Clark
Current trends in elementary school mathematics, with emphasis on modern concepts, research, discovery teaching, and preparation of materials.
- 636. Secondary Curriculum and Methods: Design.** (3:3:0) F.S.Su. Asay, Holder, VanAlfen
The designing of curriculum and units of instruction, with emphasis on effective utilization of instructional staff and technology for individualizing instruction.
- 637. Organization and Supervision of Reading Programs.** (2:2:0) F.S. Daines
Study of various approaches to teaching reading and ways to organize and supervise reading programs from grades kindergarten through twelve. Practicum experience included.
To be taken toward completion of program and with consent of instructor.
- 640. The Junior College.** (3:3:0) F.S.Su. Christensen, Smith
An analysis of the junior college movement in the United States, including the history, philosophy, purposes and objectives, and curriculum.
- 642. Methods of College Instruction.** (3:3:0) F.S.Su. G. Harrison, Smith
An analysis of appropriate instructional procedures and practices in the college. Relationship of abilities and interests of college students to instructional methods. Familiarity with new teaching materials and instructional practices.
- 644. Directed Teaching in College.** (2:4:0) F.S.Su. Smith
A course designed to assist students to become skilled teachers at the two-year and four-year college level; to participate as a member of a college staff; and to prepare for employment at a collegiate institution.
- 645. Guidance Testing and Diagnosis.** (3:3:0) F.S.Su. Prerequisites: Ed. 550 and 552. Harris, Jensen
Study of advantages and disadvantages of particular types of tests, practice in interpreting test results, and the implications of test choices and usage.

- 646. Counseling Theory and Practice.** (3:3:0) F.S.Su. Prerequisites: completion of or concurrent registration in Ed. 645; Psych. 450 or 550. Downing, Kelley
Includes an intensive study of the various theories of counseling, important concepts and views of counseling authorities, current research, and accepted practices.
- 647. Group Techniques for Counselors.** (2:2:0) S.Su. Prerequisite: Ed. 646.
Moses, Ravsten, Rohde
Principles of group guidance and their application.
- 650. Guidance Workshop.** (2:2:0) Prerequisite: Ed. 550. Downing
- 651. Informational Services in Guidance.** (3:3:0) F.S.Su. Prerequisite: Ed. 550.
E. Petersen
Consideration of various aspects of vocation selection, including sources of information, use of community resources, counseling procedures, and the filing and use of occupational data. Theories and psychological factors of career selection emphasized.
- 652. Administration of Guidance Services.** (2:2:0) S.Su. Prerequisite: Ed. 550.
Reid, Wootton
Major consideration given to the procedures of organizing and administering guidance programs, and methods of dealing with the problems related to these activities.
- 653. Student Personnel Services in Higher Education.** (2:2:0) S. Prerequisite: Ed. 550.
Cameron, Smith
- 654. Problems of the Elementary School Guidance Program.** (2:2:0)
Downing, Rohde
An intensive consideration of the problems of conducting a guidance program in the elementary school, and the determination of guidance and counseling procedures.
- 656. Advanced Educational Psychology.** (3:3:1) F.S.Su. Prerequisite: Ed. 403.
G. Harrison
Human learning and classroom procedures.
- 657. Behavior Problems in the Schools.** (2:2:0) F.S.Su. Prerequisite: Ed. 403.
Bauer, Gale
Study of mental hygiene principles and their application to typical classroom problems.
- 659. Basic Principles of Instructional Psychology.** (3:3:2) F. Prerequisite: Psych. 460 or equivalent.
G. Harrison, Merrill
Basic principles of instructional development and their application to the design, development, and evaluation of instructional systems.
- 660. Research Design and Technical Writing in Education.** (3:3:0) Prerequisite: Ed. 552.
Cottrell, G. Harrison
A study of research techniques, and designs in the field of education.
- 661. Experimental Research in Instructional Psychology.** (3:2:4) S. Prerequisite: Stat. 554 or 501 or Psych. 670.
G. Harrison, Merrill
Review of experimental literature and the design and execution of an experimental study.
- 662. Curriculum Planning for the Mentally Retarded.** (2:2:1) Su.
Pinegar, Thomas
Advanced study of curriculum and methods; the development of materials and teaching aids for the mentally retarded.
- 663. Curriculum and Methods for the Visually Handicapped.** (2:8 hrs./day for 2 weeks) Su.
Craig
Study of curriculum and methods; the development of materials and teaching aids for the visually handicapped.

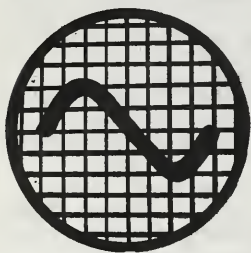
- 664. Workshop: Curriculum and Methods for the Gifted.** (2:8 hrs./day for 2 weeks) Su. Pinegar
Study of curriculum and methods; development of materials and teaching aids for the gifted.
- 665A,B,C. Diagnosis of Learning Disabilities.** (2:2:8-10 ea.) F.S.Su. Prerequisites: Ed. 570, 572; or consent of instructor. Bauer, Harrison, Wilson
Supervised training in techniques of using evaluative measures for the diagnosis of learning disabilities in the areas of A—Body Coordination, B—Perception, C—Psycholinguistics.
- 666. Special Education Services in Public Schools.** (2:2:0) F.Su. Pinegar
Problems of organization, administration, and supervision of special education services in the public schools.
- 667. Diagnosis of Achievement Difficulties.** (3:2:2) F.S.Su. Prerequisite: consent of instructor. Bauer, Harris, Herlin
Survey and use of diagnostic techniques in identification and evaluation of achievement difficulties.
- 668. Remedial Teaching Techniques.** (3:2:2) F.S.Su. Prerequisites: Ed. 667 and consent of instructor. Bauer, Wilson
Procedures and materials appropriate for remediation of achievement difficulties, with major emphasis in reading.
- 669. Guidance and Counseling for the Handicapped.** (2:2:0) S.Su. Prerequisite: Ed. 360. Gale, Pinegar
Principles and techniques of guidance services for the physically, mentally or socially handicapped, with study of effective counseling techniques. Required for California certification.
- 670. Observation and Participation in Remedial Teaching.** (2:1:4) Bauer
Observation and participation in classes of children with academic handicaps.
- 671. Practicum in Testing and Counseling.** (5:2:10) F.S.Su. Prerequisite: consent of instructor. Kelly, Rohde
- 672. Practicum in School Psychology.** (4:2:8) S.Su. Prerequisite: consent of instructor. Harris
Analysis of the role of the school psychologist. Supervised practice in testing, diagnosis, and case work with school-age children in a clinic setting.
- 673. Practicum in Remedial Teaching.** (2-4:1-2:4-8) F.S.Su. Prerequisites: consent of instructor and Ed. 670.
Supervised experience in working with academically retarded children; including individualized program planning, remedial teaching techniques, and evaluation. A fee of \$15.00 for two semester hours and \$25.00 for four semester hours is charged, payable upon application for practicum.
- 674A,B. Practicum in Learning Disabilities in the Classroom.** (2:2:8-10 ea.) Prerequisites: Ed. 570 and 572 or consent of instructor. Bauer, B. Harrison
Practicum experience in interpreting and utilizing the results obtained from evaluative measures in programming for individual students with learning disabilities. A—Diagnostic Teaching; B—Prescriptive Teaching.
- 675. Organization and Administration of Public Schools.** (3:3:0) F.S.Su. (m) Christensen, Morrill
An introduction to the principles, practices, and procedures in modern public school administration. Particular emphasis on the problems and responsibilities of the school administrator.
- 677. Public School Finance.** (2:2:0) F.S.Su. (m) Burrup
Designed with emphasis on theory, principles, and general practices of public school finance. Major emphasis includes understanding the problems of financing education; budgeting; equalization; management of school

funds; the role of the local, the state, and the federal government in the financing of public education. (Special attention is given to Utah finance structure and problems.)

- 678. Elementary School Administration.** (3:3:0) F.S.Su. (m) Clarke, Harms
A study of the duties and role of the elementary school principal in providing leadership in the education of children and of the problems of elementary school administration. Required for advanced degrees and for certification in elementary school administration.
- 679. Secondary School Administration.** (3:3:0) S.Su. (m) Burrup, Ovard
Understanding the leadership role of the principal in organizing and adapting the secondary school program to the educational needs of youth.
- 680R. Internship in Education.** (2-6:0:6-18 ea.) F.S.Su. (m) Prerequisite: consent of instructor eight weeks in advance of registration.
Christensen, Moffitt
- 682. The Teacher and School Administration.** (2:2:0) F.S.Su. (m)
Christensen, Talbot
- 685. Supervision of Education.** (3:3:0) F.S.Su. (m) Harms
Development of an understanding of the principles of supervision, curriculum, planning, and in-service training in the improvement of instruction.
- 687. School Law.** (2:2:0) F.Su. (m) Barnett, Burrup
Treats the following areas and their relationship and function with education in the U.S.: legal terms as applied to education; origin and functional aspects of the law as it affects public education; parochial schools and public-financed educational institutions; organization and administration, legal aspects of state and local district school finance, personnel and pupil administration, and school boards.
- 690A,B,C,D. Seminar.** (2:2:0 ea.) F.Su. (m)
A—Administration and Curriculum; B—Special Services; C—Research and Field Services; D—International Education.
- 691R. Doctoral Admission Seminar.** (2:2:0 ea.) F.S.Su. Prerequisite: consent of instructor.
- 693, 694. Independent Readings.** (1-2:3-6:0 ea.) F.S.Su. (m)
- 696. Independent Research.** (1-4:6-12:0) F.S.Su.
- 698. Field Project.** (2-4:Arr.:Arr.) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
- 709. Comprehensive Planning in Education.** (3:2:2) F.S.Su. (m) Talbot
Concepts and techniques of educational planning.
- 712. Media in Instructional Systems.** (3:3:0) Su. Prerequisite: Ed. 609.
Goodman, Snow
An advanced course in the application of instructional media design and selection principles to the instructional development process.
- 727. Curriculum of the Public Schools.** (2:2:0) S.Su. Callahan, Daines, Smith
Study of (1) problems of articulation among all public school levels; (2) the continuity of the curriculum from one level to another; (3) the concerns of curriculum construction.
- 731. Systems Analysis and Design.** (2:2:0) F.Su. Egbert
The systems approach and its application to the analysis and design of educational systems. Includes procedures for introducing new media and methods in education.

- 740. Advanced Counseling Theory.** (2:2:0) F.Su. Prerequisites: Ed. 646; Psych. 550. Downing, Kelly
Advanced work in counseling theory. Includes an intensive study of the various theories and their application to counseling.
- 741. Practicum in Counseling.** (3:1:8) S. Prerequisite: consent of instructor. Kelly
Experience in counseling in a center. Open only to advanced doctoral students.
- 760. Problems of Elementary School Administration.** (2:2:0) F.S.Su. (m) Clarke, Harms
A study of the problems, issues, and areas of difficulty encountered by the elementary school principal.
- 761. Problems in Secondary School Administration.** (2:2:0) F.S.Su. Clarke, Ovard
This course would identify and select major problems of the modern secondary school principal and be concerned with the systematic and wise solution of major problems which affect the operation of the school.
- 762. The Intermediate School.** (2:2:0) S.Su. (m) Clarke, Ovard
History, purposes, organization, present practices, and problems.
- 765. Business Administration of the Public Schools.** (3:3:0) Su. (m) Burrup
Covers the functions, organization, and structure of business administration in public schools. Emphasis on income, budget preparation, auditing, and central office business procedures.
- 768. Leadership Functions in Educational Administration.** (3:3:0) F.S.Su. (m) Morrill
A study of developmental leadership theory, group processes, concepts, and strategies essential to successful administration leadership, with opportunity for some leadership experiences provided.
- 769. School-Community Relations.** (2:2:0) F.S.Su. Clarke
The introduction and development of concepts, principles, and techniques in the organization, initiation, and operation of a planned program of school-public relations.
- 770. Organization and Administration of Continuing Education.** (2:2:0) S.Su. (m) Shute
- 771. Junior College Organization and Administration.** (2:2:0) S. (m) Smith
A study of the organizational structure and administration of the junior college.
- 773. Public School Building Programs.** (3:3:0) S.Su. (m) Morrill
Principles, problems, and practices in the planning, organization, and administration of public school building programs.
- 775. Educational Administrative Theory.** (2:2:0) F.S.Su. (m) Christensen, Talbot
Designed to provide insights into the development of a theory of educational administration in relation to the practical or empirical administrative functions.
- 780R. Internship in Education.** (2-8:0:6-24 ea.) F.S.Su. Prerequisite: consent of instructor 8 weeks in advance of registration. Christensen
- 790A,B,C. Seminar.** (2:2:0 ea.) F.Su. Prerequisite: consent of instructor.
A—Administration and Curriculum; B—Special Services; C—Research and Field Services.
- 791A,B,C. Seminar.** (2:2:0 ea.) S.Su.
A—Administration and Curriculum; B—Special Services; C—Research and Field Services.
- 796. Independent Research.** (2-4:6-12:0) F.S.Su.
- 798. Dissertation for Ed.D. Degree.** (9) F.S.Su.
- 799. Dissertation for Ph.D. Degree.** (Arr.) F.S.Su.

Electrical Engineering Science



Professors: Clegg, Jonsson, Losee (chairman, 175 ELB).

Associate Professors: Berrett, Bowman, Chaston, Humpherys, Miner, Monson, Woodbury.

Assistant Professors: James, Ward, Watts.

The Electrical Engineering Science Department offers professional training leading to the degrees of Bachelor of Science, Bachelor of Engineering Science, Master of Engineering, Master of Science, and Doctor of Philosophy. The curriculum is accredited by the Engineers' Council for Professional Development (ECPD) as a professional engineering curriculum. Undergraduate course work is based on a scientific foundation provided by in-depth study in mathematics, physics, and chemistry. Through this scientific foundation and the wide scope of engineering course offerings, graduates are provided with training sufficient to keep pace in this rapidly-changing field. A balance of theoretical and laboratory study ensures both current competence and preparation for future developments. Students completing the undergraduate curriculum may go on to industrial work in design, production, research, management, or related areas, or to graduate work if admission requirements can be met.

Subject fields in the Electrical Engineering Science Department include communications and electromagnetic theory, electronic devices and circuits, solid state theory, energy conversion and power systems, automatic control systems, and analog and digital computer design. The extensive background of the faculty will prove valuable to those who wish to undertake special projects or research topics in any of these fields. Seminar work and participation in technical meetings sponsored by student organizations provide a rich beginning to a professional career.

Students desiring a less scientific program emphasizing computer technology should consult the College of Technical and Industrial Education section of this catalog. Because the mathematics, physics, and other technical courses taken in the technology programs are not accepted in the engineering programs, transfers from technology to engineering will usually require additional time for make-up work.

Entrance Requirements

For both the general requirements of the University and the particular requirements specified for the College of Physical and Engineering Sciences, see those sections of this catalog.

Grade Requirements

University grade requirements are listed earlier in this catalog. In addition to these requirements, the Electrical Engineering Science Department requires a cumulative grade-point average of 2.0 (C) or better in mathematics, physics, and engineering subjects. No more than 6 hours of "D" credit in electrical engineering courses will be counted toward graduation.

General Education Requirements

Engineering science students are subject to all of the general education requirements listed in this catalog, with the following exceptions and comments:

- (1) The biological science requirement may be reduced to four semester hours instead of the six semester hours specified.
- (2) Electrical engineering students are encouraged to take full advantage of the four hours of religion credit that may be given for attending devotional assemblies for a period of four years.
- (3) It is particularly recommended that the student take Econ. 101 and Psych. 111 in satisfying the social science group requirement.
- (4) Students should not attempt to complete the general education requirements early. It is of extreme importance to maintain constant progress in the technical areas because of prerequisite structure. This applies to all students including those who expect to interrupt their schooling for missionary work or military service.
- (5) Students are required to take Engl. 316 in meeting the English requirement.

Requirements for Bachelor of Engineering Science Degree

The Bachelor of Engineering Science degree will be offered through August 1971 to accommodate transfer and returning students desiring a strong undergraduate program. The department requires successful completion of the following courses or their equivalent for graduation with a Bachelor of Engineering Science degree.

	Credit Hours
Chem. 105, 106	8
Physics 121, 122, 214, 221	10
Math. 112, 113, 214, 321, 322	17
C.E. 101, 301, 304	8
M.E. 301, 302	6
E.E. 100, 221, 210, 311, 312, 341, 411, 431, 442, 450, 460, 491, 492	33
Approved electives	28
Total Departmental Requirements	110

Approved electives are chosen from such areas as engineering, or mathematical or physical sciences with approval of the student's faculty adviser. Since the minimum credit-hour requirement for the BES degree is 154 hours, students exempted from any of the required courses will have to take additional work until the total is 154 hours or greater.

Typical sequences of courses are available from the department.

Requirements for Bachelor of Science Degree

The departmental requirements for graduation with a Bachelor of Science degree are shown in the following list:

	Credit Hours
Chem. 105, 106	8
Physics 121, 122, 214, 221	10
Math. 111, 112, 113, 214, 321, 322	22
C.E. 101, 301, 304	8
M.E. 301, 302	6
E.E. 100, 221, 210, 311, 312, 341, 411, 431, 442, 450, 460, 491, 492	33
Approved electives	6
Total Departmental Requirements	93

Approved electives are chosen from such areas as engineering or mathematical or physical sciences with approval of the student's faculty adviser.

Students with sufficient high school preparation may be excused from Math. 111 or C.E. 101. A wide variety of suggested sequences of course is available from the department chairman. Two typical programs are shown below.

Sequences of Courses for Majors, Bachelors of Science Program

Program for students prepared to begin in Math. 111:

Freshman Year			Junior Year		
	F	S		F	S
E.E. 100	1		E.E. 311, 312	4	3
Math. 111, 112	5	4	E.E. 341		4
Chem. 105, 106	4	4	Math. 321, 322	3	3
Physics 121		3	C.E. 301, 304	3	3
Engl.	3		Hist. 170	3	
Gen. ed.		3	Engl. 316	3	
Relig. 121, 122	2	2	Gen. ed.		2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	2
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
	16	17		18 $\frac{1}{2}$	17 $\frac{1}{2}$
Sophomore Year			Senior Year		
	F	S		F	S
E.E. 210		3	E.E. 411		2
E.E. 221	1		E.E. 431	4	
Math. 113, 214	4	3	E.E. 442	4	
Physics 122	3		E.E. 450		2
Physics 214, 221		4	E.E. 460		4
C.E. 101	2		E.E. 491, 492	$\frac{1}{2}$	$\frac{1}{2}$
Health 130	2		M.E. 301, 302	3	3
Gen. ed.	2	6	Approved electives	3	3
Relig.	2		Gen. ed.		3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
	17	17		17	18

Program for students prepared to begin in Math. 112:

Freshman Year			Junior Year		
	F	S		F	S
E.E. 100	1		E.E. 311, 312	4	3
Math. 112, 113	4	4	E.E. 341		4
Physics 121, 122	3	3	E.E. 460		4
C.E. 101		2	Math. 322	3	
Engl.	3		C.E. 301, 304	3	3
Gen. ed.		3	Gen. ed.	3	
Health 130		2	Engl. 316	3	
Hist. 170	3		Relig.	2	2
Relig. 121, 122	2	2	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
P.E.	$\frac{1}{2}$	$\frac{1}{2}$		18 $\frac{1}{2}$	16 $\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$			
	17	17			
Sophomore Year			Senior Year		
	F	S		F	S
E.E. 210		3	E.E. 411		2
E.E. 221	1		E.E. 431	4	
Math. 214, 321	3	3	E.E. 442	4	
Physics 214, 221	4		E.E. 450		2
Chem. 105, 106	4	4	E.E. 491, 492	$\frac{1}{2}$	$\frac{1}{2}$
Gen. ed.	2	6	M.E. 301, 302	3	3
Relig.	2		Approved electives	3	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Gen. ed.	3	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.		2
	17	17	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
			Master's class		3
				18	16

Graduate Study

The Electrical Engineering Science Department offers programs leading to the Master of Science and the Master of Engineering degrees. In conjunction with the other engineering departments, a program leading to the Doctor of Philosophy degree is available.

Students able to qualify for admission to graduate work are strongly encouraged to plan to continue to at least the master's level. Adequate preparation for many areas of employment requires training beyond that available at the undergraduate level. In many cases, a student can benefit greatly by combining plans for the bachelor's and master's degrees so that depth in an area of specialization can be achieved. With proper planning, work toward the graduate degree can be started while undergraduate requirements are still being filled. The second program above shows one possibility. A student's faculty adviser will help with preparation of a combined program.

The Master of Science degree includes a greater emphasis on research procedures and is recommended for students intending to continue study to the doctorate level. Course requirements are a 30-hour program including E.E. 513, 6 hours of mathematics, and a 6-to-9-hour thesis (E.E. 699).

The Master of Engineering degree allows more course work and greater design training. Course requirements are a 30-hour program including E.E. 513, 6 hours of mathematics, and a 3-hour project (E.E. 697).

For further details on all graduate programs, see the Graduate School Catalog.

Courses

- 100. Introduction to Electrical Engineering.** (1:1:0) F.
Introduction to the fields and profession of electrical engineering. Study of elementary engineering problems. Slide rule techniques.
- 210. Introduction to Electric Circuits.** (3:3:0) S. Prerequisites: E.E. 221; completion of or concurrent registration in Math. 214 and Physics 221.
Introduction to the solution of electrical circuit problems.
- 221. Numerical Solutions in Electrical Engineering.** (1:1:0) F. Prerequisite: completion of or concurrent registration in Math. 112.
Beginning FORTRAN programming and the numerical solutions of elementary electrical engineering problems.
- 301. Elements of Electrical Engineering.** (2:2:0) F.S. Prerequisites: Physics 213 or 221; Math. 321.
For students not majoring in electrical engineering. Study of linear electrical circuits.
- 302. Elements of Electrical Engineering.** (2:2:0) S. Prerequisite: E.E. 301.
Study of polyphase circuits, magnetic circuits, DC and AC machines, and transformers.
- 303. Elements of Electrical Engineering Laboratory.** (1:0:3) S. Prerequisite: concurrent registration in E.E. 302.
A series of energy conversion experiments designed to parallel E.E. 302.
- 304. Elements of Electrical Engineering.** (2:2:0) F. Prerequisite: E.E. 301.
Study of solid-state and vacuum tube circuits.
- 305. Elements of Electrical Engineering Laboratory.** (1:0:3) F. Prerequisite: concurrent registration in E.E. 304.
A series of laboratory experiments related to solid-state devices, vacuum tubes, and instrumentation circuits designed to parallel E.E. 304.
- 306. Analog Computer Techniques.** (1:1:0) F.S. Prerequisites: Physics 213 or 221; Math. 321.
An introduction to the simulation of engineering problems on an analog computer.

- 307. Digital Computer Techniques.** (1:1:0) F.S. Prerequisite: completion of or concurrent registration in Math. 112.
An introduction to digital computer programming and techniques.
- 311, 312. Circuit Analysis.** (4:3:3, 3:3:0) F.S. Prerequisites: E.E. 210; completion of or concurrent registration in Math. 321, 322.
Analysis of linear and nonlinear electrical circuits.
- 341. Electronic Circuits and Devices I.** (4:3:3) S. Prerequisite: E.E. 311.
The physical characteristics of solid-state devices and vacuum tubes, with selected applications.
- 411. Feedback Concepts.** (2:2:0) S. Prerequisites: Math. 321; C.E. 304; either E.E. 431, 442, or E.E. 302, 304.
Basic feedback concepts as applied to engineering systems.
- 431. Electrical Energy Conversion.** (4:3:3) F. Prerequisite: E.E. 312.
Magnetic circuits, transformers, and energy conversion principles.
- 442. Electric Circuits and Devices II.** (4:3:3) F. Prerequisite: E.E. 341.
Applications of solid-state devices and vacuum tubes.
- 450. Electrical Properties of Materials.** (2:2:0) S. Prerequisites: E.E. 442; completion of or concurrent registration in E.E. 460.
Electrical properties of crystalline solids.
- 460. Introductory Electromagnetics.** (4:4:0) S. Prerequisite: Math. 322.
Theory and application of electromagnetics from statics through Maxwell's equations.
- 491, 492. Senior Seminar.** (1:2:0 ea.) F.S. Prerequisite: senior standing in electrical engineering.
Discussion of technical and professional activities in electrical engineering.
- 511, 512. Network Synthesis.** (3:3:0 ea.) F.S. Prerequisites: E.E. 312, 442.
Approaches to the design of 2-terminal and 4-terminal networks. Means of meeting insertion loss and phase shift requirements are discussed.
- 513. Linear Systems.** (3:3:0) F. Prerequisite: graduate standing or consent of instructor.
State-space and transform techniques in the analysis of linear systems.
- 517. Digital and Sampled-Data Control Systems.** (3:3:0) Prerequisite: E.E. 411.
Basic theory and techniques for the analysis and design of digital and sampled-data control systems and related problems based on the Z-transform method.
- 523. Digital Computer Design.** (3:3:0) F. Prerequisite: E.E. 210.
The operation and logical design of digital computers.
- 524. Switching Theory.** (3:3:0) S. Prerequisite: E.E. 523.
Analysis and synthesis of combinatorial and sequential switching circuits; their use in computation.
- 528. Analog Computer Design.** (3:3:0) S. Prerequisite: E.E. 442 or 304.
Theory and operation of analog computer components; hybrid computation.
- 531. Power System Analysis I.** (3:3:0) S. Prerequisite: E.E. 431.
Polyphase circuits, transmission line constants, power system representation, generalized circuit constants, symmetrical components, fault studies.
- 532. Power System Analysis II.** (3:3:0) F. Prerequisite: E.E. 531.
Characteristics of electric power system components, additional fault study considerations, introduction to power system stability, DC transmission.

- 533. Power Machinery and Equipment.** (3:3:0) F. Prerequisite: E.E. 531.
Transformers; synchronous, induction, and DC machines; other power system devices.
- 537. Advanced Control Machinery Laboratory.** (1:0:3) S. Prerequisite: E.E. 411.
This course constitutes a block of experiments in the area of machinery control systems, machinery characteristics, and power distribution methods.
- 541. Switching, Timing, and Pulse Circuits.** (4:3:3) S. Prerequisite: E.E. 442.
Passive and active electronic circuits utilizing vacuum tubes, transistors, and other devices, with emphasis on nonlinear modes of operation.
- 542. Advanced Switching and Pulse Circuits.** (3:3:0) F. Prerequisite: E.E. 541.
Theory of switching, shaping, memory, and function generation in electronic circuitry. Negative resistance devices and circuits, delay lines, pulse transformers, and logic.
- 550, 551. Solid State Electricity.** (3:3:0 ea.) F.S. Prerequisites: Ch.E. 378; Physics 222.
Electronic properties of crystalline solids.
- 552R. Semiconductor Laboratory.** (1-2:0:3-6 ea.) F.S.Su. Prerequisite: E.E. 450 or 550.
Experimental investigation of semiconductor materials, including basic measurements and construction of electronic devices.
- 560. Electromagnetic Engineering.** (3:3:0) F. Prerequisite: E.E. 460.
Application of electromagnetic field theory including microwave and antenna fundamentals.
- 561. Communication Circuits.** (3:3:0) F. Prerequisites: E.E. 442, 460; concurrent registration in E.E. 566.
Circuits and systems used in radio, television, and radar; microwave hardware and network theory.
- 564. Radar Systems.** (3:3:0) S. Prerequisite: E.E. 561.
Radar systems and their application, including prediction of radar range performance, study of major components constituting a radar, and development of system engineering concepts.
- 566. Communication Circuits Laboratory.** (2:0:6) F. Prerequisite: concurrent registration in E.E. 561.
Building and testing the circuits studied in E.E. 561.
- 567. Advanced Communications and Electronics Laboratory.** (1:0:3) S. Prerequisite: E.E. 561.
UHF techniques, communication systems, pulse-forming networks, transmission lines, and filters.
- 597R. Special Topics in Electrical Engineering.** (3:3:0 ea.) F.S.Su. Prerequisite: consent of instructor.
Content varies from year to year. Recent developments in electrical engineering.
- 598R. Special Problems.** (1-2:Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.
Registration by permission of professor sponsoring problem.
- 617. Optimal Control Theory.** (3:3:0) F. (Offered 1971 and alternate years) Prerequisites: E.E. 411, 513.
Performance indices and maximization techniques applied to control systems.
- 618. Nonlinear Analysis.** (3:3:0) F. (Offered 1970 and alternate years) Prerequisite: E.E. 411.
Consideration of nonlinear differential equations; problems of discrete systems; design in the phase plane; adaptive control systems; dynamic programming.

623. **Advanced Digital Computers.** (3:3:0) S. Prerequisites: E.E. 523; Comput. Sci. 332; or equivalent.
Advanced theory and operation of digital computers and their design and application to engineering, scientific, and control problems.
- 645, 646. **Microwave Devices.** (3:3:0 ea.) F.S. Prerequisite: E.E. 560.
Theory and design of passive and active microwave components.
661. **Advanced Electromagnetic Fields.** (3:3:0) F. Prerequisite: E.E. 560.
Physical interpretation of electromagnetic fields. Mathematical methods of solving boundary value and other field problems.
663. **Antenna Theory.** (3:3:0) S. Prerequisite: E.E. 560.
An advanced viewpoint of radiation, terminal, and distributed properties of antenna structures.
- 664, 665. **Advanced Communications Theory.** (3:3:0 ea.) F.S. Prerequisite: E.E. 561.
Transmission through electric networks, periodic sampling, pulse modulation, analysis of information transmission systems, and noise considerations.
697. **Master of Engineering Project.** (3:Arr.:Arr.) F.S.Su.
Required one-semester project for Master of Engineering degree.
698. **Readings and Seminar.** (1:1:0) Prerequisite: graduate standing.
Presentation of literature studies or research results by graduate student or faculty. Unrelated to the master's thesis.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) Prerequisite: graduate standing.
This course is intended to include all work related to the master's thesis, i.e., literature study, research, and writing.
- 791R. **Seminar for Doctoral Students.** (1:1:0 ea.) F.S.
794. **Selected Topics in Electrical Engineering.** (1-3:Arr.:Arr.)
797. **Research for Doctoral Students.** (Arr.)
799. **Dissertation for Doctoral Students.** (Arr.)



Computer installation in the engineering analysis center

English

Professors: Cheney, B. Clark, M. Clark, Craig, Farnsworth, Hart, Jacobs, Larson, R. Thomas, Thomson, West (chairman, A-246 JKB), Young.

Associate Professors: Brady, Calder, Cox, Ellsworth, Evans, Gassman, Grass, J. B. Harris, McKendrick, Madsen, Tanner (emeritus), C. Tate, J. Thomas, Waterstradt, Wood.

Assistant Professors: Alder, Arnold, B. Best, Blanch, Cracroft, Esplin, Geary, J. S. Harris, Hayes, Horton, Howe, Lambert, McKellar, Mitchell, Morrell, Nielsen, Olson, Ridenhour, Thayer, Wahlquist, Wight, Williams, Wilson.

Instructors: V. Ballantyne, Bell, Bennion, L. Best, Hall, Hendrickson, Hill, Hunsaker, MacKay (emeritus), Norton, Ream, Sanchez, Smith, C. Taylor, J. Taylor, Walker.



English Composition (Darwin Hayes, Coordinator)

All students except foreign students who take Engl. 101 and 102 and honors students who take GEH 103 and 104 are required to take Engl. 111 (or G.C. 105) or 115 during their freshman year. Students whose surnames end with the letters A through K will take one of the courses Fall Semester; students whose names end with the letters L through Z will take one of the courses Spring Semester.

Placement Test. Freshmen will be assigned to Engl. 111 (or G.C. 105) or 115 on the basis of performance on the American College Test and high school grades in English.

English Composition. To satisfy the University requirement for English composition, all students must take one semester of composition during the freshman year. Students who demonstrate a need for remedial work take G.C. 105; students who demonstrate satisfactory ability take Engl. 111; honors students and students who demonstrate exceptional ability take Engl. 115.

Students may take Engl. 212, 215, 251, or 316 to fulfill the second semester requirement of English composition. Colleges and departments will designate which of the courses they wish their majors to take. If the college or department requires Engl. 212, 215, or 251, the course will be taken during the sophomore year with students whose surnames end with the letters A through K taking the course Fall Semester and L through Z Spring Semester. If the required course is Engl. 316, the course will be taken during the junior year with fall and spring registration being determined alphabetically as above.

NOTE: The suggested departmental course outlines for majors in other sections of this catalog need to be adjusted to meet the English composition program outlined above.

Requirements for an English Major

All students majoring in English must complete at least thirty-five credit hours in English beyond the English composition requirement outlined above. The following program is prescribed:

	Hours
A. Engl. 321. Study in English Grammars	3
B. Engl. 361. Early American Literature, or Engl. 362. Later Nineteenth-Century American Literature	4

- C. Engl. 371. English Literature to 1500: The Medieval Period, or
 Engl. 372. English Literature from 1500 to 1660:
 The Renaissance Period, or
 Engl. 373. English Literature from 1660 to 1780:
 The Classical Period 3-4
- D. Engl. 374. English Literature from 1780 to 1832:
 The Romantic Period, or
 Engl. 375. English Literature from 1832 to 1900:
 The Victorian Period 4
- E. Engl. 382. Shakespeare, or
 Engl. 582. Extended Readings in Shakespeare 3
- F. Engl. 490. Senior Seminar for English Majors 2
- G. At least two courses selected from the following: Engl. 332, 333, 335,
 336, 341, 342, 343, 350, 359, 364, 366, 367, 380, 381, 383, 391, 420, 450;
 Comp. Lit. 338, 355, 356.
- H. Sufficient additional courses chosen in consultation with the student's
 departmental adviser to bring the total in English to at least thirty-
 five semester hours. (Note: All English courses numbered in the 300,
 400, and 500 levels, including courses listed as alternates in C, D, and
 E above, may be counted toward the thirty-five-hour total except
 Engl. 377 and 479, which count as education courses; but only the
 following courses numbered below 300 may be counted: Engl. 218,
 221.) No more than six credit hours in writing courses beyond English
 composition (Engl. 218, 315, 318, 319, 518) may be counted toward
 filling the thirty-five hours required for an English major. Note: Engl.
 215, 251, and 316 may count toward the thirty-five hours required if
 not taken to fill the English composition requirement.) An English
 major who elects an undergraduate emphasis in the English language
 may, with the approval of his adviser, choose certain courses in lin-
 guistics from the Linguistics section of the catalog to fill courses pre-
 scribed by this section (H).

The program for English majors is sufficiently flexible that a student not only may elect a traditional emphasis in English literature, but, if he chooses, may emphasize American literature or contemporary literature and creative writing or English language. Students emphasizing the English language may specialize in teaching English as a second language. Such students should elect courses from the following: Engl. 325 or Ling. 325, Ling. 360, 423, Engl. 529, 577. A booklet entitled "The English Major at BYU" outlining these programs is available on request.

The department provides a minimum reading list which the English major should obtain and begin to employ early in his academic program. During the semester prior to his graduation, he will be given a departmental examination based on the reading list, the senior seminar, and his overall major program.

In addition to the requirements listed above, each English major is expected to complete at least six to eight hours of one foreign language. (Only those language courses numbered 102 and above, or equivalent courses at other universities, will apply toward fulfilling this requirement.) All graduating English majors will be awarded the Bachelor of Arts degree. No more than six hours of "D" grade in English may be applied toward the completion of requirements for the English major.

Recommended Supporting Courses for English Majors

Although nearly all scholarly disciplines can contribute importantly to the intellectual background which an English major should acquire, certain courses taught in other departments have particular values for English majors. Usually these courses can be chosen to fill a student's general education group requirements without increasing his overall requirements for graduation. The following courses are some of those which are strongly recommended by the English Department: Hist. 120, The United States to 1865; Hist. 121, The United States

Since 1865; Classical Civilization 341, Greek and Roman Mythology; Hist. 335, England; Speech and Dram. Arts 121, Voice, Diction, and Interpretation; Speech and Dram. Arts 325, Advanced Interpretation and Storytelling; Hum. 201, The Arts in Western Culture: Age of Greece to Early Renaissance; Hum. 202, The Arts in Western Culture: Late Renaissance to the Modern Age; Phil. 110, Introduction to Philosophy; Phil. 324, Contemporary Continental Philosophy; upper-division courses in comparative literature.

Students should consult with their advisers about other courses which would be particularly beneficial in supporting their individual programs for the English major.

Requirements for a Teaching Major in English

The requirements for a teaching major in English and for the regular major are the same except that the student completing a teaching major must take Engl. 421, History of the English Language, and the courses required for teacher certification as outlined by the College of Education.

English is one of the subjects comprising the composite major in language arts designed for prospective teachers. (See College of Education.)

Recommendation on a Minor to Be Selected by English Majors

An English major who is not a teaching major **need not** complete a regular departmental minor. However, if he desires to complete a minor and have it recorded on his permanent records, he may select a minor from the College of Humanities, the College of Social Sciences, or the College of Fine Arts and Communications, or in philosophy or library science. English teaching majors must complete a teaching minor in a related field, as specified above as possibilities for a nonteaching major, consisting of 16 or more hours of designated courses in a subject also taught in the secondary schools of Utah and approved by the College of Education. For further information, see the Education section.

Any departmental minor for the English major other than those specified above must be approved by the student's adviser and the chairman of the English Department.

Requirements for a Minor in English

Students planning a teaching minor in English must complete Engl. 321, 275, 360, 370, and sufficient electives to make the total work in English beyond English composition, at least twenty semester hours. Other students minoring in English may select from the courses approved for a minor courses totaling at least fourteen semester hours beyond the English composition requirement. A minimum of six of the fourteen hours must be in upper-division courses. Such courses should be selected in consultation with the student's major department adviser and, if desired, a member of the English Department faculty.

Graduate Work in English

For qualified students seeking the M.A. and Ph.D. degrees in English, attractive scholarships, fellowships, and part-time teaching assistantships are available. Inquiries regarding these should be addressed to the chairman of the English Department.

Master of Arts Degree

A graduate student may major in either English or American literature or English language; he may minor in a subject outside the English Department such as French, linguistics, or comparative literature, or in English literature, American literature, or English language. In addition, he should complete the University requirements for the Master of Arts degree. He should have reading proficiency in French or German or in another foreign language approved by the department.

Among the thirty hours required for a Master of Arts degree, each student must take the following courses:

	Hours
A. Engl. 615. Bibliography and Methods of Research	2
B. Engl. 624. Old English, or Engl. 626. Middle English, or Engl. 529. Structure of American English	3

The following courses must also be included if the student did not have such courses as an undergraduate:

A. Engl. 421. History of the English Language	3
B. Engl. 450. The Criticism and Appreciation of Literature, or Engl. 650. Literary Criticism	3

In fulfilling the thesis requirements for a master's degree in English, a student may select any one of the following three options:

- (1) One long thesis on a topic demanding research, criticism, or both;
- (2) Three long papers written in three different areas of English or American language or literature and on topics demanding research, criticism, or both;
- (3) Two long papers written in two different areas of English or American language or literature and on topics demanding research, criticism, or both; and a substantial creative work.
- (4) An extended creative project as described below. A candidate who wants to apply for this option should inform the Graduate Committee of the English Department when he begins his work for the degree. He must comply with the regulations of the English Department and the Graduate School in the same way as other candidates do.

The work done under any of the above four options is under the direction of the student's advisory committee and must fulfill all of the requirements of form, date of submission, and binding that apply to a regular master's thesis.

To prepare for option (3) the candidate must complete 2 hours of the following courses or, if he is a transfer student, their equivalent; to prepare for option (4) the candidate must complete at least 2 hours either as a graduate or an undergraduate student in the English 300 writing series (315, 316, 318, 319) and at least 2 hours in Engl. 518R. His average for the required course or courses must be at least "B." He must also submit samples of his current creative writing to the Writing Committee of the English Department, who, within a two-week period, will recommend acceptance or rejection of the candidate's application. When the candidate for either option has been assigned an advisory committee, the committee will approve his creative project, which may consist of such forms as essays, a drama or dramas, librettos, short stories, a novella, a novel, or poetry, to satisfy the thesis requirement.

Doctor of Philosophy Degree

The program for the Doctor of Philosophy degree in English was approved by the Board of Trustees in September 1969. The courses offered for the degree beyond those listed for the Master of Arts below were in the process of preparation when this catalog went to press. To obtain a complete course outline for the Ph.D., write to the Department of English, A-246 JKB, Brigham Young University, Provo, Utah 84601.

General Education Courses in Literature

An undergraduate student filling his general education requirement in the humanities and fine arts area may take any literature course for which he has the proper background and prerequisites.

Courses

10. Preparatory English. (0:2:0) (Off-campus courses only)

Drill in essentials of English for students not prepared for G.C. 105 or 111.

15. **Remedial English for Juniors.** (0:3 for $\frac{1}{2}$ semester:0) F.S.Su. Home Study also. G. Bennion
Intensive review of the essentials of composition for students who have failed the Junior English Proficiency Examination. (Fee \$15.00)
99. **Problems in Thesis Writing.** (0:2:0) F.S.Su. Evans
Composition course designed specifically for the writer of a thesis or other graduate paper, with emphasis on organization, sentence structure, correctness, and preciseness.
101. **English as a Second Language.** (3:5:5) F.S. Madsen
Designed to develop proficiency in English as a second language. Reading, review of major constructions, intonation, pattern drills. Goal: the use of English in free composition. (Completion of Engl. 101 and 102 will satisfy the requirement for credit in English composition.)
102. **English as a Second Language (Composition).** (3:3:3) F.S. Madsen
111. **Composition and Reading.** (3:3:0) F.S.Su. Home Study also. Hayes
Course in reading and writing designed for development of skills of effective writing, of critical awareness of the resources of the language, and of skill in reading rapidly and critically. Review of grammar, readings, and weekly themes.
115. **Composition and Reading.** (3:3:0) F.S. Hayes
Alternate course to Engl. 111 designed for students who show superior ability and training in composition.
212. **Composition and Reading.** (3:3:0) F.S.Su. Prerequisite: G.C. 105 or Engl. 111 or 115. Hayes
Continuation of Engl. 111 and 115. Study of diction, tone, and style in both expository prose and literature. Long library paper.
215. **Exposition and Report Writing.** (3:3:0) F.S.Su. (m) Prerequisite: G.C. 105 or Engl. 111 or 115.
Continuation of Engl. 111 and 115. Long library paper. Composition course intended to develop clarity and precision in factual writing.
218. **Creative Writing.** (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 212, 215, 251, or 316.
Composition course intended to develop expressive skill and power through writing of short stories, poems, dramas, and informal essays.
221. **English Grammar.** (3:3:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 212, 215, 251, or 316. West
The traditional study of English grammar, with attention to standard English usage.
225. **Vocabulary Building.** (2:2:0) F.S.Su. Home Study also. (m) Horton, Wahlquist
Service course intended to develop an effective vocabulary through study of prefixes, suffixes, and roots.
250. **Introduction to Literature.** (3:3:0) F.S.Su. (G-HA m) Prerequisite: Engl. 111 or 115, and at least sophomore status. Howe
Various types of literature—short story and novel, poetry, essay, biography, and drama—with a critical reading and analysis of significant examples of each type. Does not count toward the English teaching minor.
251. **Fundamentals of Literature.** (3:3:0) F.S.Su. Home Study also. Prerequisite: Engl. 111 or 115. M. Clark
Continuation of Engl. 111 or 115. Basic course in literary appreciation and criticism, literary terminology, and interpretive writing. Long library paper. Required of all English majors and minors and recommended for other students whose majors or minors focus on literature.

252. **Introduction to Poetry.** (2:2:0) F.S. (G-HA m) Prerequisite: Engl. 111 or 115, and at least sophomore status. Evans, Hill, Morrell
Appreciation course in poetry, emphasizing critical reading and analysis of significant poems of various types.
253. **Introduction to Drama.** (2:2:0) F.S. (G-HA m) Prerequisite: Engl. 111 or 115, and at least sophomore status. Ridenhour, Waterstradt
Appreciation course in drama, with attention given to various forms—tragedy, comedy, farce, melodrama, and modern problem play—and with a critical reading of famous examples of each type.
254. **Introduction to Biography.** (2:2:0) S. (G-HA m) Prerequisite: Engl. 111 or 115, and at least sophomore status. Young
Short biographies of some famous statesmen, patriots, adventurers, scientists, inventors, painters, writers, and others, including Hitler, Napoleon III, George III, Edison, Wilson, Jefferson, Lincoln, Goethe, Gauguin, the Curies, John Brown, and Dolly Madison.
260. **Masterpieces of American Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 111 or 115, and at least sophomore status. Lambert
Selected readings in American literature from colonial times to the present. Does not count toward the English teaching minor.
270. **Masterpieces of English Literature.** (3:3:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 111 or 115, and at least sophomore status. Grass
Selected readings in English literature from medieval times to the present. Does not count toward the English teaching minor.
275. **English Literature I: From Beowulf Through Shakespeare.** (5:5:0) F.S.Su. (m) Intended for English teaching minors. Others admitted by the consent of the instructor. Prerequisite: Engl. 251. Waterstradt
Introduction to literary criticism—principles of analysis, interpretation, and evaluation—followed by a critical study of English literature from Beowulf through Shakespeare. Language development and interpretive composition also emphasized.
282. **Shakespeare.** (2:2:0) F.S.Su. Home Study also. (G-HA m) Prerequisite: Engl. 111 or 115, and at least sophomore status. Grass
Appreciation course in Shakespeare, with an interpretive reading of about eight of his great dramas. Does not count toward the English teaching minor.
315. **Advanced Expository Writing.** (2:2:0) F.S. (m) Prerequisite: Engl. 212, 215, 251, or 316. Farnsworth, Hart
Advanced composition course designed for students who wish to extend and refine their skills in factual writing.
316. **Technical Writing.** (3:3:0) F.S.Su. (m) Prerequisite: G.C. 105 or Engl. 111 or 115. J. S. Harris
Composition and reading course intended to develop accuracy and skill in writing scientific pamphlets, articles, reports, and memoranda. Fulfills the second half of the English composition requirement for students of colleges specifying this option.
318. **Writing of Fiction.** (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 218 or consent of instructor. Thayer
Special development in the creation of style and technique in prose fiction; the discipline and practice of the writer; individual consultation.
319. **Writing of Poetry.** (2:2:0) F.S.Su. Home Study also. (m) Prerequisite: Engl. 218 or consent of instructor. Larson
Special development in the creation of style and technique in poetry; the discipline and practice of the poet; individual consultation.

- 321. Study in English Grammars.** (3:3:0) F.S.Su. (m) Prerequisite: Engl. 212, 215, 251, or 316. Alder, Cox, Norton
A basic course in modern grammars of English—descriptive, structural, and transformational—with study of the linguistic principles which support these applications of language study. Required for English majors and English teaching minors.
- 325. Introduction to the English Language.** (3:3:0) (m) Prerequisite: Engl. 212, 215, 251, or 316. Alder
An introduction to the study of the English language, including its phonology, morphology, and syntax, and their application to the problems of English language learning.
- 326. Semantics.** (2:2:0) F.S. (m) Prerequisite: Engl. 212, 215, 251, or 316.
An introduction to general semantics, with particular focus on the way in which words influence thought and behavior.
- 332. The English Novel from Defoe Through Dickens.** (3:3:0) F.S. Home Study also. (G-HA m) Brady, Gassman
English prose fiction from the beginnings to the midnineteenth century, with emphasis on Defoe, Richardson, Fielding, Smollett, Sterne, Scott, Austen, Trollope, Thackeray, the Brontës, and Dickens.
- 333. The Modern English Novel.** (3:3:0) F.S. Home Study also (G-HA m) Brady, B. Clark
The English novel from the midnineteenth century to the present, with emphasis on George Eliot, Meredith, Hardy, Conrad, Bennett, Galsworthy, Lawrence, Maugham, Joyce, Woolf, Huxley, and several contemporary novelists.
- 335. The American Novel to Dreiser.** (2:2:0) F.S. Home Study also. (G-HA m) Jacobs, Williams
Nineteenth-century American novelists, with emphasis on Cooper, Hawthorne, Melville, Twain, Howells, and James.
- 336. The Modern American Novel.** (2:2:0) F.S. Home Study also. (G-HA m) M. Clark, McKellar
Twentieth-century American novelists, with emphasis on Dreiser, Cather, Lewis, Hemingway, Faulkner, Steinbeck, Wolfe, Fitzgerald, Dos Passos, and Warren.
- ☐ **Comparative Literature 338. European Novel.** (3:3:0) F. (G-HA m) Blanch, M. Clark
- 341. English Drama to 1642.** (2:2:0) F. (G-HA m) Craig
Religious drama of the Middle Ages, court plays, and popular drama of the Renaissance, excluding Shakespeare.
- 342. Restoration and Eighteenth-Century Drama.** (2:2:0) S. (G-HA m) Craig, Gassman, Wood
English drama from 1660 to 1800, with emphasis on high comedy, sentimental comedy, and heroic tragedy.
- 343. Modern English and American Drama.** (2:2:0) F.S. (G-HA m) Craig, Ridenhour, Waterstradt
Major English and American dramatists since 1890.
- 350. The Bible as Literature.** (2:2:0) F.S.Su. Home Study also. (G-HA m) Ellsworth, Olson
- ☐ **Comparative Literature 355. World Classics I.** (3:3:0) (G-HA m) Britsch, Craig, Tate
- ☐ **Comparative Literature 356. World Classics II.** (3:3:0) (G-HA m) Spears, Thomson
- 359. The Short Story.** (2:2:0) F.S.Su. Home Study also. (G-HA m) Cheney
Critical study of selected great short stories—American, English, and European—with emphasis on twentieth-century stories.

360. **American Literature from the Beginnings to the Present.** (4:4:0) F.S.Su. (G-HA m) Intended for English teaching minors. Others admitted by consent of the instructor. Prerequisites: Engl. 251, 275. Arnold, Lambert, McKellar
Critical study of American literature from colonial times to the present, emphasizing major literary works and affording practice in interpretive writing.
361. **Early American Literature.** (4:4:0) F.S.Su. (G-HA m) Jacobs, Thomson, Williams
From the beginnings through writers of the midnineteenth century.
362. **Later Nineteenth-Century American Literature.** (4:4:0) F.S.Su. (G-HA m) Ellsworth, Jacobs, Thomson
From the midnineteenth century to the end of the century.
364. **The Literature of the American West.** (2:2:0) F.S. (G-HA m) Prerequisite: Engl. 212, 215, 251, or 316. Cracroft, Lambert
A critical study of important literature that utilizes frontier and western situations. Focuses on the special problems of writing about the West.
366. **Modern Poetry.** (2:2:0) S. Home Study also. (G-HA m) Hart, Larson
Major English and American poets of the twentieth century. May not be taken for credit by students who have had Engl. 380.
367. **English and American Folk Ballads.** (2:2:0) F. (G-HA m) Cheney
English and Scottish ballads and American folk songs.
370. **English Literature II: From Donne Through Eliot.** (5:5:0) F.S.Su. (G-HA m) Intended for English teaching minors. Others admitted by consent of the instructor. Prerequisites: Engl. 251, 275. Grass, Waterstradt
A critical study of English literature from John Donne through T. S. Eliot, emphasizing the major works of major authors. Language development and interpretive composition also emphasized.
371. **English Literature to 1500: The Medieval Period.** (3:3:0) F.S.Su. (G-HA m) McKendrick
English literature from its beginnings to 1500, with emphasis on its relationship to other European literature.
372. **English Literature from 1500 to 1600: The Renaissance Period.** (4:4:0) F.S.Su. (G-HA m) Larson, J. Thomas, Wood
English drama, poetry, and prose of the Renaissance period, including Milton but excluding Shakespeare.
373. **English Literature from 1660 to 1780: The Classical Period.** (4:4:0) F.S.Su. (G-HA m) Craig, Gassman, Hart
English literature from the Restoration through the Augustan Age of Reason to the beginnings of Romanticism, including works of Defoe, Swift, Fielding, Dryden, Pope, and Johnson.
374. **English Literature from 1780 to 1832: The Romantic Period.** (4:4:0) F.S.Su. Home Study also. (G-HA m) Cheney, B. Clark, J. B. Harris
English literature of the Age of Romanticism, including works of Burns, Blake, Wordsworth, Coleridge, Scott, Lamb, Byron, Shelley, Keats, and the Brontës.
375. **English Literature from 1832 to 1900: The Victorian Period.** (4:4:0) F.S.Su. (G-HA m) Brady, B. Clark, Farnsworth
English literature of the middle and later nineteenth century, including works of Carlyle, Ruskin, Tennyson, Browning, Arnold, Dickens, Thackeray, George Eliot, the Rossettis, Fitzgerald, Morris, Swinburne, Meredith, Hopkins, Wilde, Hardy, and Housman.
377. **Secondary Teaching Procedures.** (3:3:3) F.S. Prerequisites: Engl. 221 or 321, 251; or 275; Ed. 301. J. B. Harris, West
For course description and fee, see Ed. 377.

- 380. Twentieth-Century Literature.** (5:5:0) F.S.Su. (G-HA m) M. Clark, Hart, Larson
American, English, and some continental literature, with emphasis on American. May not be taken for credit by students who have had Engl. 366.
- 381. Chaucer.** (3:3:0) S. (G-HA m) McKendrick
- 382. Shakespeare.** (3:3:0) F.S.Su. (G-HA m) B. Clark, Farnsworth, Hart
From six to eight major plays studied intensively.
- 383. Milton.** (2:2:0) F.Su. (G-HA m) C. Tate
- 391. Studies in Folklore.** (3:3:0) F.Su. (m) Prerequisite: Engl. 212, 215, 251, or 316. Wilson
Content and scope of folklore; various genres (tale, legend, myth, ballad, etc.) and approaches to folklore, including fieldwork; folklore of both literate and nonliterate peoples.
- 420. Literature for Adolescents.** (2:2:0) S.Su. (m) Hayes
Critical examination of the body of literature written for adolescent readers and of effective methods of teaching literature in the secondary schools. Intended especially for English teaching majors and minors.
- 421. History of the English Language.** (3:3:0) F.S.Su. (m) Cox, McKendrick
Descriptive study of the English language in the various stages of its development, with background of related historical events. Strongly recommended for students who intend to do graduate study in English and required of English teaching majors.
- 422. English Language Arts for Elementary Teachers.** (3:3:0) F.S.Su. (m) Prerequisite: Engl. 212, 215, 251, or 316. Hayes, Norton
A study of the history of the English language, of approaches to English usage, and of modern developments in grammar, especially transformational grammar.
- 450. The Criticism and Appreciation of Literature.** (3:3:0) F.Su. (m) M. Clark, Hart
Critical theories and standards of value. Strongly recommended for students who intend to do graduate study in English.
- 479. Secondary Student Teaching.** (4-8:1:20-40) F.S. Prerequisite: Engl. 377. Calder, McKendrick, West
For course description and fee, see Ed. 479.
- 490. Senior Seminar for English Majors.** (2:2:0) F.S.Su. M. Clark
- 495. Individual Readings.** (1-3:2-8:0) F.S.Su.
Available only on approval of the student's adviser to English majors and to students on foreign tours.
- 500R. Eminent American Writers.** (1:1:0 ea.) F.S.Su.
Different writers are treated each semester in this series.
- 510R. Eminent English Writers.** (1:1:0 ea.) F.S.Su.
Different writers are treated each semester in this series.
- 518R. Advanced Creative Writing.** (2:2:0 ea.) F.S. Prerequisite: Engl. 318, 319, or consent of instructor. Larson
A seminar in the writing of fiction, poetry, drama, and the essay; individual consideration of manuscripts; professional orientation. May be repeated for credit with the consent of the instructor.
- 529. Structure of American English.** (3:3:0) F.Su. Prerequisite: Engl. 321; Ling. 325; or consent of instructor. Cox
Application of the methods of linguistic science to the description of the phonology, morphology, and syntax of American English.

- 577. Procedures in Teaching English as a Second Language.** (3:3:3) F.S. Prerequisites: Engl. 321, 529, or Ling. 423.
Designed to acquaint students with methods and materials used in teaching English as a second language. Students will observe, discuss methods, and do some teaching.
- 582. Extended Readings in Shakespeare.** (3:3:0) S. Farnsworth, Young
Extensive study of the body of Shakespeare's works.
- 615. Bibliography and Methods of Research.** (2:2:0) F.S.Su. Gassman, J. Thomas
The use of library sources as tools for literary study and an introduction to various areas in which literary research may be pursued. Should be taken in the first regular semester of graduate study.
- 621. Problems in the English Language.** (3:3:0) F. 1970, 1971; Su. 1970. Prerequisite: Engl. 421. Cox, McKendrick
The study of a particular period in the English language or a particular aspect of the language, such as the study of morphology or syntax.
- 624. Old English.** (3:3:0) S. 1971, 1972; Su. 1971. McKendrick, Young
A study of Old English grammar and vocabulary in order to understand traditional syntactical patterns and to read various types of Old English prose and poetry.
- 625. Beowulf.** (2:2:0) S. 1972. Prerequisite: Engl. 624. McKendrick, Young
A close reading of the poem in the original, with emphasis upon literary and cultural values.
- 626. Middle English.** (3:3:0) F. McKendrick
A detailed study of the principal Middle English dialects as illustrated in the literature of the period.
- 631. The English Novel.** (3:3:0) S. 1970, Su. 1971, F. 1972. Prerequisite: Engl. 332, 333, or consent of instructor. Brady, B. Clark
An intensive analysis of literary values and techniques in selected novels. Not a survey course.
- 635. The American Novel.** (3:3:0) S. 1971, F. 1971, S. 1972. Blanch, M. Clark, Jacobs
Various approaches to the novel, with emphasis on the formal. Focus may vary according to the instructor and the needs of students.
- 641. The English Drama.** (3:3:0) S. 1970, Su. 1971. Craig
A short intensive survey of English drama from its beginning, followed by independent research.
- 650. Literary Criticism.** (3:3:0) S.Su. Prerequisite: Engl. 450 or equivalent. M. Clark, Hart
An examination of modern critical theory and practice and application by students to specific literary works.
- 661. Colonialism and Puritanism in American Literature.** (3:3:0) Su. 1970, F. 1971. Prerequisite: Engl. 361 or consent of instructor. Jacobs, Thomson, Williams
Intensive readings in major writers of the emerging American literary and cultural traditions before 1800.
- 662. Romanticism in American Literature.** (3:3:0) F. 1970, Su. 1971. Prerequisite: Engl. 361 or consent of instructor. Ellsworth, Jacobs, Thomson
The rise and fruition of the romantic movement in American literature from Freneau to Lowell.
- 664. Realism and Naturalism in American Literature.** (3:3:0) S.Su. (Once a year, alternate S. and Su.) Prerequisite: Engl. 362 or consent of instructor. M. Clark, Jacobs
Dominant and aesthetic trends since the Civil War.

- 667. Folklore.** (2:2:0) S. 1971. Prerequisite: Engl. 391 or consent of instructor.
 Directed study in folklore and folkways, with emphasis on Mormon heritage and tradition. Collecting, analyzing, and editing. Cheney
- 669. Teaching English in the Secondary Schools.** (2:2:0) S. 1971, Su. 1970, 1971. Prerequisite: Engl. 377 or consent of instructor. West
 Intensive consideration of literature, writing, grammar, and reading materials appropriate to English courses, and the effective use of these materials.
- 671. The Medieval Period in English Literature.** (2:2:0) S. 1970, S. 1971. (Scheduled alternately with Engl. 626.) Engl. 626 helpful, but not required. McKendrick
 A close reading in the original of a principal work, such as *Troilus and Criseyde*, *Piers Plowman*, or *Sir Gawain and the Green Knight*, with emphasis upon its relation to the other literature, the culture, and the history of the period.
- 672. The Renaissance in English Literature.** (3:3:0) F. 1970, S. 1971. Prerequisite: Engl. 372 or consent of instructor. Larson, J. Thomas, Wood, Young
 Research in individual authors, styles, influences, and trends. Emphasis will vary according to instructor.
- 673. Classicism in English Literature.** (3:3:0) Su. 1970, S. 1971. Prerequisite: Engl. 373 or consent of instructor. Gassman, Hart
 A study in depth of selected writers from the period 1660-1780.
- 674. Romanticism in English Literature.** (3:3:0) Su. 1970, F. 1970. Prerequisite: Engl. 374 or consent of instructor. Cheney, B. Clark, J. B. Harris
 An intensive review of the major figures and trends in the Romantic period (1780-1832) along with individual research.
- 675. The Victorian Age in English Literature.** (3:3:0) S. 1970, 1972. Prerequisite: Engl. 375 or consent of instructor. Brady, B. Clark, Farnsworth
 A careful and detailed analysis of literary genres, values, and techniques in representative works of the period. Not a survey course.
- 680. Modern Literature.** (3:3:0) F. 1970, Su. 1971. Prerequisite: at least one course in twentieth-century literature or consent of instructor. M. Clark, Hart, Larson
 Study of specific trends in literature and criticism; students may select areas of interest.
- 682. Problems in Shakespearean Scholarship and Criticism.** (3:3:0) Su. 1970, S. 1971. (Offered alternately with Engl. 641.) Prerequisite: Engl. 382, 582, or consent of instructor. Hart
- 695. Individual Readings in English.** (1-2:Arr.:0) F.S.Su.
 Intended for investigation beyond course work offered, not for filling out minimum required hours.
- 699. Thesis for Master's Degree*.** (6-9:Arr.:Arr.) F.S.Su.
 See options described with master's program in English above.

*With reference to continuous registration for this course, see the current Graduate School Catalog.

Environmental Design



Instructors: Allen, Baughman (chairman, 2230 SFLC), Dansie, Dreijmanis, Hollingshead, Irish, Maas, Riggs, Rogers, Viehweg.

At the beginning of this new decade, our society is in a self-critical and reflective mood. We are particularly concerned about our environment. An extended period of technological advances and unprecedented affluence has not brought us the quality of life we had hoped for. We are discovering that it is not the things of progress nor the symbols of affluence that bring us satisfaction, but it is the environment—natural and man-made—that determines most ultimately the quality of our life and, to an ever-increasing degree, the stability of our society.

We have become aware, almost too late, that through neglect or inexpert planning we have made an ugly tragedy of much of our man-made environment, and we have been shockingly indifferent to our responsibilities as stewards of the natural environment. The Department of Environmental Design at BYU is dedicated to doing something about all this. It proposes to train young people to set forth to improve the quality of environment, not only in our own land, but in others.

As the word design implies, we will be particularly concerned with what is man-made, but our consciousness of the importance of relating the structured environment harmoniously with the natural environment leads us to an interdisciplinary approach in which all related sciences will be employed. Finally, in all our undertakings, the human considerations will come first. Design forms at BYU will evolve only from this guiding premise.

The Core Program

All environmental design students are required to take the two-year core program. This will provide the necessary theory of design, as well as the skills of environmental analysis. On this solid basis the student can then proceed to specialize in his last two years in one of four fields: environmental landscape and urban design; environmental product design; environmental graphic design; designer of interior environment (professional); and designer of interior environment (major).

Environmental Landscape and Urban Design

This curriculum is designed to prepare the student who wishes to go on to a master's degree in landscape architecture, environmental design, or urban design*. It will also serve the student well who wishes to complete his education in four years for work in these fields. Emphasis will be placed on the multi-discipline approach in recognition of the need to synthesize studies relevant to landscape, regional, and urban design.

*At the present time, a postgraduate program is not available in these fields at BYU.

Environmental Product Design

This curriculum is designed to train the student most interested in designing products for manufacture. In addition to the aesthetic training and visual

communication skills, the advanced technology of modern industry will be thoroughly taught. Graduates will be qualified to work in design offices or as independent environmental product designers of furnishings for the interior and the external environment.

Environmental Graphic Design

This curriculum will provide all the basic aesthetic and technical skills for working in the area of business and public graphics as well as in the important new field of exhibit design and environmental communications. Students will be qualified upon graduation for work in major architectural or urban planning firms, governmental planning offices, or as a free-lance environmental graphic designer.

Designer of Interior Environment (Professional)

This curriculum has been designed for the student of interior environment who plans to work as a professional in the field. His aim may be to work as director of interior design in a major architect's office, in an interior design office, or as a free-lancer. He may also consider continuing on for a degree in interior architecture.

Designer of Interior Environment (Major)

This curriculum is designed for the student, most often female, who wishes after graduation to work for a relatively short while in the interior design field. Graduates will qualify as junior assistants to interior designers or as salesmen/decorators in the interior design department of a home furnishings store. She will also use her training and knowledge in her own home and semiprofessionally in her community following marriage.

The Two-Year Core Program

(Required of All Environmental Design Students)

First Year		Second Year	
GENERAL EDUCATION REQUIREMENTS		GENERAL EDUCATION REQUIREMENTS	
Relig.	4	Relig.	4
P.E.	1	P.E.	1
Engl.	6	Math. 101	3
Sociol. 111	3	Hist.	3
Micro. 121	3	Physics 105	3
		Physics 107	1
THEORY AND VISUAL STUDIES		THEORY AND VISUAL STUDIES	
Art 408	2	Art 121	3
Art 120	3	Art 256	2
Environ. Des. 201	3	Drafting 111	3
Environ. Des. 113	2	Environ. Des. 213	2
ENVIRONMENTAL ANALYSIS		Art 233	2
Environ. Des. 102	3	Drafting 355*	3
Environ. Des. 119	2	ENVIRONMENTAL ANALYSIS	
Sociol. 112 (environ. des. emphasis)	3	Environ. Des. 219	2
Total Hours	35	Environ. Des. 215	2
		Bot. 460	2
		Total Hours	36

*Interior environment (major) students may take Environ. Des. 233, Basic Architecture I, instead of Drafting 355, Residential Drafting and Planning, during their core program.

Specialization: Environmental Landscape and Urban Design*

Third Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
Health	2
Physics 106	3
Physics 109**	1
Hum. 101	3

ENVIRONMENTAL LANDSCAPE AND URBAN DESIGN

Environ. Des. 233	3
Environ. Des. 364 (a)	3
Hort. 103	3
Environ. Des. 333	3
Environ. Des. 365 (b)	3
Hort. 430	3
Environ. Des. 221	2

Total Hours 33

Fourth Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
ENVIRONMENTAL LANDSCAPE AND URBAN DESIGN	
Environ. Des. 375	3
Environ. Des. 478 (c)	3
Environ. Des. 479 (d)	3
Environ. Des. 499	3
Geog. 522	3
Geol. 104	3
Pol. Sci. 536	3
Environ. Des. 485	2
Electives	5-6
Total Hours	32-33

*This curriculum is designed to serve both the 3- or 4-year prelandscape architect student and the preurban design student requirements. It will also serve the student seeking to finish in 4 years.

**Physics 109 is titled Introductory Physics Laboratory and is a special course fashioned for the environmental design students.

- a. Not offered until fall 1971.
- b. Not offered until spring 1972.
- c. Not offered until fall 1972.
- d. Not offered until spring 1973.

Specialization: Environmental Product Design

Third Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
Hum. 101	3
Physics 106	3
Physics 109*	1

ENVIRONMENTAL PRODUCT DESIGN STUDIES

Environ. Des. 425	3
Environ. Des. 233	3
Art 212	2
Environ. Des. 355 (a)	3
Environ. Des. 333	3
Art 312	2
Environ. Des. 455 (b)	3
Indus. Ed. 205	3
Elective	2

Total Hours 35

Fourth Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
Hum. 202	3
ENVIRONMENTAL PRODUCT DESIGN STUDIES	
Environ. Des. 225	3
Art 412R	6
Indus. Ed. 200	3
Environ. Des. 325	3
Indus. Ed. 460	3
Environ. Des. 499	3
Electives	4-5
Environ. Des. 485	2
Total Hours	34-35

*Physics 109 is titled Introductory Physics Laboratory and is a special course fashioned for the environmental design students.

- a. Not offered until fall 1971.
- b. Not offered until spring 1972.

Specialization: Environmental Graphic Design

Third Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
Health	2
Physics 106	3
Physics 109*	1
Hum. 101	3
ENVIRONMENTAL GRAPHIC DESIGN	
Environ. Des. 233	3
Environ. Des. 387 (a)	2
Environ. Des. 380 (a)	2
Environ. Des. 221	2
Environ. Des. 225	3
Environ. Des. 480 (b)	3
Elective	2
Environ. Des. 375	2
Total Hours	32

*Physics 109 is titled Introductory Physics Laboratory and is a special course fashioned for the environmental design students.

Fourth Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
Hum. 202	3
ENVIRONMENTAL GRAPHIC DESIGN	
Environ. Des. 325	3
Environ. Des. 364 (a)	3
Environ. Des. 487 (b)	2
Environ. Des. 490 (c)	3
Commun. 371	2
Environ. Des. 365	3
Environ. Des. 499	3
Commun. 372	3
Environ. Des. 485	2
Elective	2
Total Hours	33

a. Not offered until fall 1971.
b. Not offered until spring 1972.
c. Not offered until fall 1972.

Specialization: Interior Environment (Professional)*

Third Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
Health	2
Physics 106	3
Physics 109**	1
Hum. 101 or Art 301	3
INTERIOR ENVIRONMENT STUDIES (PROFESSIONAL)	
Environ. Des. 221	2
Environ. Des. 330	3
Environ. Des. 332	3
Environ. Des. 230	3
Environ. Des. 225	3
Environ. Des. 233	3
Environ. Des. 331	3
Total Hours	33

*The professionally-oriented students will be assigned special sections in the interior environment curriculum and are required to take certain courses designed especially for them. It will be necessary to take a design aptitude admissions test to qualify as a professional interior environment student. This test will be mailed to the applicant upon request or can be taken at registration.

**Physics 109 is titled Introductory Physics Laboratory and is a special course fashioned for the environmental design students.

Fourth Year	
GENERAL EDUCATION REQUIREMENTS	
Relig.	4
Hum. elective	3
Hum. 202	3
INTERIOR ENVIRONMENT STUDIES (PROFESSIONAL)	
Environ. Des. 325	3
Environ. Des. 333	3
Environ. Des. 431	2
Environ. Des. 425	3
Environ. Des. 437	2
Environ. Des. 499	3
Environ. Des. 485	2
Elective	2
Total Hours	30

Specialization: Interior Environment (Major)*

Third Year		Fourth Year	
GENERAL EDUCATION REQUIREMENTS		GENERAL EDUCATION REQUIREMENTS	
Relig.	4	Relig.	4
Health	2	Hum. elective	3
Physics 106	3	Hum. 202	3
Physics 109**	1	INTERIOR ENVIRONMENT STUDIES (MAJOR)	
Hum. 101 or Art 301	3	Environ. Des. 325	3
INTERIOR ENVIRONMENT STUDIES (MAJOR)		Environ. Des. 437	2
Environ. Des. 240	3	Environ. Des. 485	2
Environ. Des. 221	2	Environ. Des. 499	3
Environ. Des. 330	3	Clo. and Text. 260	3
Environ. Des. 230	3	Bus. Mgt. 256	3
Environ. Des. 225	3	Electives	4-5
Environ. Des. 326	3	Total Hours	30-31
Environ. Des. 331	3		
Total Hours	33		

*The major designation is given to this curriculum which has been designed for the nonprofessionally-oriented student. (No design aptitude admissions test will be required of students entering this program.)

**Physics 109 is titled Introductory Physics Laboratory and is a special course fashioned for the environmental design students.

Courses

- 102. Introduction to Environmental Design.** (3:3:0) F. Prerequisites: concurrent registration in Art 408, 120. Viehweg
Man in his environment, the preservation of natural ecology, urban planning; problems and solutions.
- ☐ **Horticulture 103. Home Landscape Design.** (3:3:0)
- ☐ **Drafting 111. Mechanical Drawing Fundamentals.** (3:3:0)
- 113. Applied Design (Two-Dimensional).** (2:1:2) S. Dreijmanis
The principles of two-dimensional design as applied to environmental settings and objects.
- 119. Environmental Field Studies I.** (2:1:2) S. Prerequisite: Environ. Des. 102. Baughman
Ecological problems in the community will be researched, solutions proposed and, where possible, implemented.
- ☐ **Art 120. Basic Design.** (3:3:3)
- ☐ **Art 121. Basic Drawing.** (3:6:0)
- ☐ **Industrial Education 200. Woodwork Projects.** (3:1:5)
- 201. Philosophy of Contemporary Architecture and Design.** (3:3:0) S. Prerequisite: Environ. Des. 102. Baughman
A survey of contemporary architecture and design, emphasizing the philosophy behind the modern movements and implications for environment.
- ☐ **Industrial Education 205. Introductory Production Methods.** (3:2:4)
- ☐ **Art 212. Contemporary Industrial Design.** (2:4:0)

- 213. Applied Design II (Three-Dimensional).** (2:2:2) S. Prerequisite: Art 256. Riggs
Application of three-dimensional design principles to objects in the environment. Scale models and full-size mockups will be constructed.
- 215. Synthesis of Environmental Studies and Design.** (2:2:0) (m)
A discussion of the interrelatedness of environmental studies and design and the professional specializations that are emerging.
- 219. Environmental Field Studies II.** (2:2:2) F. Prerequisites: Environ. Des. 119, 201.
Problems in private and public environments are presented for student solutions. Some implementation of solutions will be attempted.
- 221. Rendering II.** (2:2:2) F.S. Prerequisite: all core courses. Irish
Opaque and other more advanced techniques of environmental rendering will be taught.
- 225. Interior Environment Laboratory I.** (3:2:3) S. Prerequisite: all core courses. Rogers
A studio class in the residential environment, with emphasis on the psychological requirements of the occupants.
- 230. Materials and Components of the Interior Environment.** (3:3:0) S. Prerequisite: all core courses. Dansie
The study of the ingredients in the interior environment, floor and wall materials, hardware, lighting, fabrics, furnishings, etc.
- 233. Basic Architecture I.** (3:2:3) S. Prerequisite: all core courses (except for industrial education majors). Viehweg
An introduction to architectural planning and design, structural design, construction, and materials.
- ☐ **Art 233. Design in Watercolor Painting.** (2:4:0)
- 240. Introduction to Interior Environment.** (3:3:0) F. Prerequisite: all core courses. Allen, Hallingshead
Principles of psychology, design, color, and furnishings applied to the residential environment.
- ☐ **Art 256. Design in Sculpture.** (2:4:0)
- ☐ **Business Management 256. Introduction to Retailing.** (3:3:0)
- ☐ **Clothing and Textiles 260. General Textiles.** (3:3:1)
- ☐ **Art 309. History of Architecture.** (2:2:0)
- ☐ **Art 312. Industrial Design.** (2:4:0)
- 325. Interior Environment Laboratory II.** (3:2:3) Prerequisite: Environ. Des. 225.
More advanced problems in planning and design, residential emphasis for "majors," and business and public interiors will be stressed for "professional" students.
- 326. Environmental Textiles.** (3:2:2) S. Prerequisite: all core courses. Rogers
Study of the new textile technology, synthetic and natural fibers, and comparative design and techniques.
- 330. History of the Interior Environment.** (3:3:0) F. Prerequisite: all core courses. Allen, Dansie
Historic domestic architecture and interiors, classic principles and elements of design, and significance of taste variables in history.
- 331. Components of the Contemporary Interior Environment.** (3:3:0) F. Prerequisite: all core courses. Dansie, Rogers
Study of furniture; art objects; window, floor, and wall materials; and lighting for the contemporary environment.

- 332. Principles of the Interior Environment.** (3:2:2) F. Baughman
Problems in interior planning and design, color, arrangement of elements, traffic patterns (for professional students only).
- 333. Architectural Studies II.** (3:2:3) F.S. Prerequisite: Environ. Des. 233. Viehweg
More advanced architectural design and planning, and remodeling of residential, business, and public buildings, interior and exterior.
- 355. Furniture Design and Construction I.** (3:2:3) F. (Offered 1971 and subsequent years) Prerequisite: all core courses. Baughman
Furniture design as evolved from functional purpose and method and materials of construction, and from emotional requirements of environment.
- ☐ **Drafting 355. Residential Drafting and Planning.** (3:2:4)
- 364. Introduction to Regional and Urban Planning.** (3:2:3) F. (Offered 1971 and subsequent years) Prerequisite: all core courses.
The history of environment and survey of contemporary schools of design and thought relevant to urban and regional planning.
- 365. Urban Design Laboratory I.** (3:2:3) S. (Offered 1972 and subsequent years) Prerequisite: Environ. Des. 364.
Planning of grounds and building complexes of business and civic developments on an introductory level.
- ☐ **Communications 371. Introduction to the Motion Picture.** (2:2:1)
- ☐ **Communications 372. Motion Picture Production.** (3:2:4)
- 375. Environmental Presentation I.** (3:2:2) S. (Offered 1972 and subsequent years) Prerequisite: Environ. Des. 221. Irish
Rendering and model-making techniques for the landscape and urban designer.
- 380. Environmental Graphics I.** (2:2:3) F. (Offered 1971 and subsequent years) Prerequisite: all core courses.
The application of graphic design to interior architecture, both functional and decorative.
- 387. Communications in the Public Environment I.** (2:1:5) F. (Offered 1971 and subsequent years) Prerequisite: all core courses.
Principally exhibit design—structure and graphics and psychology of human visual response, traffic studies, and message content.
- ☐ **Art 408. Contemporary Art.** (2:2:0)
- ☐ **Art 412R. Advanced Industrial Design.** (3:4:2 ea.)
- 425. Interior Environment Laboratory III.** (3:2:3) S. Prerequisites: Environ. Des. 325, concurrent registration in 431. Baughman
Public and institutional environments: schools, hospitals, low-cost housing, etc., with emphasis on the psychological requirements.
- ☐ **Horticulture 430. Landscape and Planting Design.** (3:0:6)
- 431. Space Planning.** (2:2:2) S. Prerequisite: Environ. Des. 325. Topham
Study of circulation patterns in commercial, public, and business environments. Will include office "landscaping."
- 437. Work Procedures and Professional Practices.** (2:2:0) S. Prerequisite: Environ. Des. 331. Dansie
Business aspects of the interior design profession. Buying, selling, professional ethics. Also methods of measuring and estimating for drapery and floor covering, installation, etc.

455. **Furniture Design and Construction II.** (3:1:4) S. (Offered 1972 and subsequent years) Prerequisite: Environ. Des. 355. Baughman
More advanced problems, full-scale drawings and mockups in wood, metal, and plastic.
- ☐ **Botany 460. Conservation of Natural Resources.** (2:2:0)
- ☐ **Industrial Education 460. Industrial Plastics.** (3:2:4)
478. **Environmental Landscape Design I.** (3:2:3) F. (Offered 1972 and subsequent years) Prerequisite: Environ. Des. 364. Maas
Study of the natural environment and the ingredients of landscape design, structures, various hard surfaces, and botanical and natural materials.
479. **Environmental Landscape Design II.** (3:2:3) S. (Offered 1973 and subsequent years) Prerequisite: Environ. Des. 478. Maas
Landscape design in relation to architecture and planning, transportation studies, and suburban developments.
480. **Environmental Graphic Design II.** (3:2:3) S. (Offered 1972 and subsequent years) Prerequisite: Environ. Des. 380.
Problems in the application of graphics to exterior situations, with emphasis on institutional and business environments.
485. **Senior Field Work.** (2:1:3) S.
487. **Communications in the Public Environment II.** (2:1:4) S. (Offered 1972 and subsequent years) Prerequisite: Environ. Des. 387.
Typographical design and the use of graphic symbols in environmental communication.
490. **Introduction to Urban Graphics.** (3:2:3) F. (Offered 1972 and subsequent years) Prerequisites: Environ. Des. 364, 387.
Graphic design as relevant to urban planning, signage for highways, and public and recreational areas.
499. **Senior Thesis and Seminar (All Specializations).** (3:1:3) S.
- ☐ **Geography 522. Urban Geography.** (3:3:0)



Instructor teaching three-dimensional design class

European Studies Program



Associate Professor: Edwin B. Morrell (co-ordinator, 374-B M).

Committee Members: Hans Kelling—Germanic and Slavic Languages; Harold Dawdle—Spanish and Portuguese; Keith Slade—French and Italian; Mae Blanch—English; Roland Koller—Economics; Edwin B. Morrell—Political Science; Dale Stevens—Geography; Louis Cardon—History.

The European Studies Program is an interdisciplinary program which provides for two majors or a major and minor combination leading to the B.A. degree.

The program is designed to prepare students for careers and advanced study requiring a broad understanding of modern and contemporary Europe. Students in European studies combine the depth of a major in a regular academic discipline with the breadth of integrated study in European culture, history, politics, and economics. In the program, students will acquire a working competency in one of the major languages of Europe (German, French, Italian, Russian, or Spanish). With the approval of the committee on European studies, an area of specialization within the program may be designated, such as European studies—Russia. The major outlined proves useful to students contemplating careers in the academic areas, private industry, or government service. Students may enter the program only with the permission of the coordinator and should register each semester thereafter under his direction.

Requirements for a Major

A total of 28 hours (in addition to a regular major and 12 hours of French, German, Italian, Russian, or Spanish language instruction, equivalent to the bachelor's degree requirement) divided as follows:

1. Core courses dealing directly or entirely with modern Europe (starred in list below) from three fields outside the regular major 14 hrs.
2. Elective courses outside the regular major, dealing indirectly or partially with Europe (any in the list below). Nonlanguage majors are expected to complete as part of their elective an additional seven hours (making a total of 19) in a chosen European language 14 hrs.

Requirements for a Minor

A total of 17 hours (in addition to a regular major and 12 hours of one of the listed European languages, equivalent to the bachelor's-degree requirement) divided as follows:

1. Core courses (starred) chosen from two fields outside departmental major 12 hrs.
2. Elective courses (including two additional hours of language study) 5 hrs.

Art

301	Art History and Appreciation	3
406	Renaissance Art	2
*407	Nineteenth-Century European Art	2

408	Contemporary Art	2
414	Baroque Art	2
Classical Civilization		
341	Greek and Roman Mythology	2
441	Classical Literary Traditions I: Greek Literature from Homer to the Alexandrian Period	3
442	Classical Literary Traditions II: Roman Literature of the Republic and Early Roman Empire	3
443	Classical Literary Traditions III: Latin and Greek Literature in the Middle Ages	3
461	Greek Drama in English Translation	2
Comparative Literature		
310	Introduction to Comparative Literature	3
*338	European Novel	3
355	World Classics I	3
356	World Classics II	3
471	Literature of the Middle Ages	3
472	Literature of the Renaissance	3
473	Literature of the Enlightenment	3
*474	The Romantic Movement	3
*475	Realism and the Modern Age	3
Economics		
241	Comparative Economic Systems	3
358	International Trade and Finance	3
415	History of Economic Thought	3
441	Advanced Comparative Economic Systems	3
*471	European Economic History	3
590R	Advanced Economic Problems (Directed Readings in Europe)	1-3 ea.
English		
270	Masterpieces of English Literature	3
275	English Literature I: From Beowulf Through Shakespeare	5
282	Shakespeare	2
332	The English Novel from Defoe Through Dickens	3
333	The Modern English Novel	3
341	English Drama to 1642	2
342	Restoration and Eighteenth-Century Drama	2
367	English and American Folk Ballads	2
370	English Literature II: From Donne Through Eliot	5
371	English Literature to 1500: The Medieval Period	3
372	English Literature from 1500 to 1660: The Renaissance Period ...	4
373	English Literature from 1660 to 1780: The Classical Period	4
374	English Literature from 1780 to 1832: The Romantic Period	4
*375	English Literature from 1832 to 1900: The Victorian Period	4
381	Chaucer	3
382	Shakespeare	3
383	Milton	2
421	History of the English Language	3
510	Eminent English Writers	1
French		
440	Historical Survey of French Literature	4
*441	Survey of French Literature and Culture	3
*442	Survey of French Literature and Culture	3
445	Introduction to French Civilization	3
575	French Literature of the Eighteenth Century	2
580	French Literature of the Nineteenth Century	3
*585	French Literature of the Twentieth Century	2
German		
440	Survey of German Literature and Culture	4

441	German Literature from the Beginning to 1700	3
*442	German Literature in the Eighteenth Century	3
443	German Literature in the Nineteenth Century	3
*444	German Literature in the Twentieth Century	3
*445	Cultural History of Germany	3
Geography		
120	Geography and World Affairs	3
441	Political Geography	3
*460	Europe	3
*465	USSR and Its Satellites	3
490	Readings	1
*561	Western Europe and the Mediterranean	2
Greek		
431	Masterpieces of Greek Literature	3
432	Masterpieces of Greek Literature	3
441	Survey of Greek Literature and Culture	3
442	Survey of Greek Literature and Culture	3
History		
304	Greek History and Civilization	3
307	Roman History and Civilization	3
310	The Early Middle Ages	3
311	The Late Middle Ages	3
312	The Renaissance: Age of Transition	3
313	The Reformation: Age of Turmoil	3
320	The Age of Enlightenment	2
*322	Nineteenth-Century Europe	2
*323	Europe in the Twentieth Century	3
326	Western Civilization I (Travel Study)	3
327	Western Civilization II (Travel Study)	3
*329	The Austrian Empire and Eastern Europe	3
*330	Tsarist Russia	3
*331	The USSR and Eastern Europe	3
*332	France	3
*333	Modern Germany	3
*334	Spain	3
*335	England	3
410	Medieval Institutions	2
*433	The Weimar Republic and Nazi Germany	2
482	History of Science II	3
498	Directed Readings (European History)	1-2
Italian		
*441	Survey of Italian Literature and Culture	3
*442	Survey of Italian Literature and Culture	3
Latin		
431	Masterpieces of Latin Literature	3
432	Masterpieces of Latin Literature	3
441	Survey of Latin Literature and Culture	3
442	Survey of Latin Literature and Culture	3
Music		
103	Survey of Music Literature	2
471	Sixteenth-Century Counterpoint	3
472	Eighteenth-Century Counterpoint	3
484	History of Music	3
485	History of Music	3
566	Applied Music Literature	2
567	Applied Music Literature	2
Philosophy		
321	History of Ancient and Medieval Philosophy	4

322	History of Modern Philosophy	4
*323	Contemporary Anglo-American Philosophy	3
*324	Contemporary Continental Philosophy	3
421R	Topics in Ancient Philosophy	2 ea.
422R	Topics in Medieval Philosophy	2 ea.
423R	Topics in Modern Philosophy	2 ea.
424R	Topics in Contemporary Philosophy	2 ea.
Political Science		
150	Introduction to Comparative Political Systems	3
*350	Political Systems of the USSR and Eastern Europe	3
*355	Political Systems of the United Kingdom and Commonwealth	3
380	World Communism	3
498	Directed Readings in Political Science (European Politics)	1-2
502	Modern Political Philosophy	3
503	Contemporary Political Philosophy	3
*549	Political System of France	3
568	Anglo-American Legal Institutions	3
*572	USSR Foreign Relations	3
*573	International Relations of Western Europe	3
576	Regional International Systems (Europe)	3
Religious Instruction—Church History and Doctrine		
453B	Mormonism and the Christian Tradition	2
554	Martin Luther, Forerunner of the Restoration	2
Russian		
*441	Survey of Russian Literature	3
*442	Survey of Russian Literature	3
445	Cultural History of Russia	3
Spanish		
*441	Survey of Spanish Literature	4
*445	The Culture of the Hispanic World	3
470	The Narrative of the Golden Age	3
485	Introduction to Contemporary Spanish Literature	3

Family Economics and Home Management



Professor: Cutler (chairman, 150 FOB).

Associate Professor: Poulson.

Assistant Professor: Bastian.

Instructors: Lewis, Vincent.

The Department of Family Economics and Home Management offers courses designed to

1. Serve curriculum needs of other departments—contributing particularly to the training of prospective teachers in home economics, marriage and family counselors, social workers, and missionaries.
2. Assist students in group housing or in home situations to assess their human and nonhuman resources and make the most effective use of them through application of basic economic and management principles.
3. Provide a systematic study plan for students pursuing work toward the baccalaureate and M.S. degrees preparatory to doing professional work in home extension, consumer services, education, business, and international home science programs.

Requirements for a Major

FEHM courses required of all majors are 335, 350, 351, 370, 460, 480, 485, 520, and 590. An adviser is assigned to each student on admission to the program who will assist in planning the four-year course of study to best serve the student's professional interests. Three major options are possible, with a wide range of available professional opportunities in each: (1) home extension and consumer services, (2) home economics in business (HEIB), (3) preparation for graduate study.

Courses in the department are based on root disciplines in the social, biological, and physical sciences, and in humanities. The major as outlined under option one includes 33 hours from social science and religion, 24 hours in biological science and nutrition, 19 hours in humanities and related arts, 14 hours in physical science. The remaining 38 hours provide for intensive work in family economics, management, education and research, with a few hours for electives. General education requirements are accounted for in the above list.

Option One: Home Extension and Consumer Services

The student interested in consumer services or in a profession with an extension service of a land-grant college is required to take, in addition to the basic core classes, Sociol. 111, 357; Econ. 111, 112; FSN 255, 264, 265, 310, 340; Clo. and Text. 165, 260; Ed. 301B; and CDFR 210, 361. The courses in food science and nutrition provide for a minor in that department.

Option Two: Home Economics in Business (HEIB)

The student interested in a profession as a demonstrator for utility and appliance companies is required to take, in addition to the basic core classes, Sociol. 111; Econ. 101; Environ. Des. 240; FSN 255, 264, 265, and 340; Clo. and Text. 260; Ed. 301B; Speech and Dram. Arts 102; Commun. 101, 211; and Bus. Mgt. 341; and at least one course from CDFR. Specific courses in a department in this option may count toward a minor in that department.

Option Three: Preparation for Graduate Study

In addition to basic core classes, the prospective graduate student is required to take Anthrop. 101, 105; Econ. 111, 112; Bus. Mgt. 241; Sociol. 111 or Psych. 111; Sociol. 350, 403; CDFR 312, 360, and 361. At least one course from each of the following areas is required: environmental design, clothing and textiles, and food science and nutrition. Specific courses in an area in this option may count toward a minor in that department.

Suggested Study Plan for Option One

Semester I	Cr.
Engl. 111	3
FEHM 170	3
Math. 105	3
Hist. 170	3
Health 130	2
Relig. 121	2
Forum and dev. assy.	1
P.E.	$\frac{1}{2}$
Total	17$\frac{1}{2}$

Semester II	Cr.
Engl. 112	3
Chem. 151	5
Sociol. 111	3
Hum. 101	3
Relig. 122	2
Forum and dev. assy.	1
P.E.	$\frac{1}{2}$
Total	17$\frac{1}{2}$

Semester III	Cr.
Zool. 105	3
FEHM 250	3
Econ. 111	3
CDFR 210	3
Clo. and Text. 260	3
Relig.	2
Forum and dev. assy.	1
P.E.	$\frac{1}{2}$
Total	18$\frac{1}{2}$

Semester IV	Cr.
Micro. 121	3
Physics 100	3
Econ. 112	3
Nurs. 288	2
Clo. and Text. 165	4
Relig.	2
Forum and dev. assy.	1
P.E.	$\frac{1}{2}$
Total	18$\frac{1}{2}$

Semester V	Cr.
Art 301	3
FEHM 335	3
FEHM 350	2
FSN 255	5
Relig.	2
Forum and dev. assy.	1
Electives	2
Total	18

Semester VI	Cr.
FEHM 351	2
FEHM 450	3
FSN 264, 265	5
CDFR 361	3
Relig.	2
Ed. 301B	2
Forum and dev. assy.	1
Total	18

Semester VII	Cr.
FEHM 480	2
FEHM 435	3
FEHM 580	2
FSN 340	2
Stat. 221	3
Sociol.-Psych. 357	3
Forum and dev. assy.	1
Total	16

Semester VIII	Cr.
FEHM 370	3
FEHM 460	2
FEHM 485	3
FEHM 590	2
FSN 310	2
Forum and dev. assy.	1
Electives	4
Total	17

Courses**170. Management of Resources. (3:2:2)**

Lewis

For students living at home or in group housing, and for newly-married couples. Emphasis on time, money, and energy management.

250. **Consumer Economics.** (3:2:2) Bastian, Cutler
Trends related to food, clothing, housing, and transportation costs. Weekly investigation of local market goods and services, and evaluation of information sources.
335. **Household Equipment.** (3:2:2) F.S.Su. (m) Chamberlain, Vincent
Principles underlying selection, construction, operation, and care of household equipment. Laboratory experience in testing performance and comparing costs.
350. **Principles of Home Management.** (2:2:0) Prerequisites: Sociol. 111 or Psych. 111; and CDFR 210. Poulson
Values, decision making, human resource development, and supervision.
351. **Family Finance.** (2:2:0) F.S.Su. (m) Chamberlain, Poulson
Open to men and women. Economic problems of direct concern to the family today. Types and adequacy of income and its apportionment in terms of family needs and interests.
370. **Management for Varied Socio-Economic Groups.** (3:2:6) Prerequisites: FSN 340; FEHM 335, 351. Bastian, Cutler
Application of management principles to ethnic and social-economic needs of families. Practicum provides for living experience in several varying situations.
435. **Household Organization and Planning.** (3:1:4) Prerequisites: FEHM 335; Environ. Des. 201. Cutler
Space planning and utilization as related to efficient, healthful, comfortable, and aesthetically-satisfying housing. Emphasis on kitchen planning.
450. **Management of Energy and Performance Testing.** (3:2:2) Prerequisites: Physics 100; FEHM 335.
Management and use of various sources of energy for heating, lighting, and operating the home. Experimental problems on the performance of major types of equipment.
460. **Consumers in the Market.** (2:2:0) F.S. (m) Prerequisites: Econ. 101; Psych. 111, or Sociol. 111. Chamberlain, Poulson
Consumers' role in the marketing system; consumer decision making, with respect to market goods and services; evaluation of information sources for consumer buyers; consumer protection programs.
480. **Training in Demonstration Techniques.** (2:1:2) F. Prerequisite: Ed. 301.
Experience in planning and presenting direct audience demonstration. Techniques for presentation before various-sized groups.
485. **Fieldwork in Family Economics and Home Management.** (3:0:6) Poulson
Individually planned internship arranged through government agencies or business concerns to provide on-the-job experience.
520. **Management of Time and Human Resources.** (2:2:0) F. (m) Prerequisite: FEHM 350. Poulson
Perspectives concerning time and human resources in family life. Concepts and principles related to the use of these resources for furthering attainment of family goals.
570. **Supervision of Residence Groups.** (1:1:0) F.S. Poulson
Objectives for supervision of residence groups and methods whereby residence groups in a self-directive program under the guidance of a supervisor achieve goals decided upon.
- 580R. **Special Topics in Family Economics and Home Management.** (2:2:0 ea.) Prerequisite: consent of instructor. Cutler, Poulson
590. **Seminar.** (2:0:3) S. Poulson
595. **Readings and Projects.** (1-2:1-2:0) F.S.Su. Poulson
Consultation and directed use of library and laboratory materials.

Food Science and Nutrition

Professors: Bennion, Page.

Assistant Professors: Call, Johnson (acting chairman, 2218 SFLC).

Instructors: Boyle, Bryner, Franz, Sovine, Turner.



The Department of Food Science and Nutrition curriculum may prepare the student for a variety of professions: dietetics, public health nutrition, research and development of new foods, quality control supervision, food industry administration or inspection, food-chemistry analysis, test kitchen specialist; or it may prepare the student for graduate work and college teaching.

Within the department, academic programs are offered which will help the student:

- understand the vital role of nutrition in promoting optimum health, and apply the principles of nutrition to individual, national, and international problems;
- apply basic scientific principles from such fields as chemistry, microbiology, physics, etc., to the study of nutrition and food science;
- gain skill in the management of time, money, and materials in the processing and preparation of food;
- prepare to enter a profession related to food science and nutrition.

Students in food science and nutrition may become student members of the Institute of Food Technologists. After graduation from the University, students in dietetics are required to complete a twelve-month internship at an approved hospital before they are eligible to become members of the American Dietetics Association and Registered Dietitians. A list of approved internships is available in the department office.

For majors in food science and nutrition, a minimum of 24 hours in the department is required, including FSN 264, 265, 355, and 490. A minor in the department requires 14 hours, including FSN 255 or 115 and 335; 264; and 265. The department offers programs of specialization in the following options: (1) food science, (2) dietetics, (3) nutrition, and (4) foods in business.

Food Science Option

Freshman	
Relig.	4
Engl.	6
P.E. and health	3
Zool. 105 or Bot. 101	3
Math. 105 and 106, or 111	5-6
Chem. 105, 106	8
FSN 160	2
Electives	2-4
Total Hours	33-36

Physics 121, 122; or 201, 202 ..	6-10
Hist. 170	3
Electives	2-4
Total Hours	33-39

Sophomore	
Relig.	4
P.E.	1
Psych. 111	3
Chem. 151, 384, 385	10
Math. 109 or 112	4

Junior	
Relig.	4
Chem. 223	5
Micro. 321, 322	4
FSN 264, 265	5
FSN 335	5
FSN 350	4
FSN 461	4
Hum.	2
Electives	2-3
Total Hours	35-36

Senior			
Relig.	4	Micro. 361	2
FSN 450, 462, 463, 490	13	Micro. 381	2
Econ. 101, or Agr. Econ. 112	3	Electives	2-4
Hum.	6		
An. Sci. 328	2	Total Hours	34-36

Dietetics Option

Freshman		Junior	
Relig.	4	Relig.	4
Engl.	6	Hist. 170	3
P.E. and health	3	Chem. 384, 385	5
Zool. 105	3	Physics 100	3
Psych. 111	3	FSN 335, 340	7
Chem. 105 and 106 or 101	4-8	FSN 370, 470	4
Math. 105	3	An. Sci. 225*	2
FSN 115	2	FEHM 335	3
Electives	2-6	Electives	3-4
Total Hours	30-38	Total Hours	34-35

Sophomore		Senior	
Relig.	4	Relig.	4
P.E.	1	Hum.	4
Zool. 261	4	Micro. 361*	2
Hum.	2	Psych. 330	2
Econ. 101	3	Ed. 402 or Psych. 460	2-3
Chem. 151	5	FSN 455, 490	5
Micro. 121 or 321 and 322	3-4	FSN 380, 472	5
FSN 264, 265	5	FSN 400*	2
Acctg. 201	3	Electives	8-9
Electives	2-4	Total Hours	34-36
Total Hours	32-35		

*Strongly recommended

Nutrition Option

Freshman		Junior	
Relig.	4	Relig.	4
Engl.	6	Physics 201	5
P.E. and health	3	Chem. 352, 353, 384, 385	9
Chem. 105	8	Hist. 170	3
Zool. 105	3	FSN 264, 265, 335	10
Psych. 111	3	Stat. 221	3
FSN 115	2	Total Hours	34
Math. 105 and 106 or 111	5-6		
Total Hours	34-35		
Sophomore		Senior	
Relig.	4	Relig.	4
P.E.	1	Hum.	4
Chem. 223, 351	8	FSN 400, 455, 490, 595	8-9
Math. 109 or 112	4	FSN (chosen from list below)	8
Soc. sci.	2	Physics 202	5
Hum.	2	Electives	4-6
Zool. 261	4	Total Hours	33-36
Micro. 321, 322	4		
Electives	5-7		
Total Hours	34-36		

FSN courses (choose at least 6 hours): FSN 340, 350, 370, 450.

Foods in Business Option
(includes a minor in communications)

Freshman	
Relig.	4
Engl.	6
P.E. and health	3
Zool. 105 or Bot. 105	3
Psych. 111	3
Chem. 101	4
Micro. 121	3
FSN 115	2
Commun. 101	2
Electives	2-4
Total Hours	32-34

Sophomore	
Relig.	4
P.E.	1
Hum.	4
Econ. 101 or 111	3
Chem. 151	5
FSN 264, 265	5
FSN 160	2
Hist. 170	3
Commun. 201, 211, 230	7
Total Hours	34

Junior	
Relig.	4
Chem. 384, 385	5
Hum.	2
Commun. 255, 307	5
FSN 310, 335, 340	9
Physics 177	3
FEHM 335, 460	5
Electives	2-3
Total Hours	35-36

Senior	
Relig.	4
Commun. 480	6
FSN 370, 492, 490	6
Zool. 261	4
An. Sci. 225	2
Speech and Dram. Arts 102	2
Ed. 301	2
FEHM 480	2
Electives	4-6
Total Hours	32-34

Courses

- 110. Principles of Food Preparation.** (2:1:2) F.S. Fee: \$4.00.
Open to all students. Techniques of food preparation for maximum retention of nutritive value are taught through lecture and laboratory experience.
- 115. Essentials of Nutrition.** (2:2:0) F.S.Su. Home Study also. (m)
Basic concepts of human nutrition and their application in achievement and maintenance of optimum health.
- 116. Essentials of Nutrition Laboratory.** (1:0:2) F.S. (m) Prerequisite: concurrent registration in FSN 115 or consent of instructor.
- 160. Introduction to Food Technology.** (2:2:0) S. (m) Call
Food manufacturing and distribution around the world, and some factors which have contributed to our modern food industry.
- ☐ **Animal Science 328. Meat Processing Methods.** (2:1:3)
- 245. Nutrition of Mother and Child.** (2:2:0) F. Turner
Not open to students who have completed a basic course in nutrition. Basic concepts of human nutrition, with special emphasis on the nutritional needs and problems of pregnancy, lactation, and childhood through adolescence.
- 255. Fundamentals of Nutrition.** (5:4:2) F. (m) Prerequisites: Zool. 105; Chem. 151. Franz
For nonmajors. Majors should elect FSN 115 and 335.
Basic concepts of human nutrition at all ages. Achievement and maintenance of optimum health for all family members.
- 264. Introduction to Food Science.** (3:3:0) F.S.Su. (m) Fee: \$5.00. Prerequisites: Chem. 151; Micro. 121 or 321; concurrent registration in FSN 265. Bennion, Johnson, Turner
A study of chemical and physical properties of foods, and their application to preparation and processing.

- 265. Introduction to Food Science Laboratory.** (2:0:6) F.S. (m) Prerequisite: concurrent registration in FSN 264. Fee: \$5.00.
- 310. Food Patterns of Various Cultures.** (2:1:3) S. (m) Prerequisite: a college course in food preparation or consent of instructor. Fee: \$4.00. Bryner
The social, religious, economic, and aesthetic significance of food customs of various cultures.
- 335. Chemistry of Nutrition.** (5:4:2) S. (m) Prerequisites: FSN 115; Zool. 261; completion of or concurrent registration in Chem. 384, 385. Franz
Application of scientific principles to the study of nutrition.
- 340. Meal Management.** (2:1:3) F.S. (m) Prerequisites: FSN 110 or 264 and 265; completion of or concurrent registration in FSN 115 and 116 or 255. Fee: \$5.00. Boyle, Bryner
Organization and management of time, energy, and finances in planning and preparing family meals.
- 350. Food Analysis.** (4:2:6) F. (m) Prerequisites: Chem. 223, 384, 385. Call
Principles, methods, and instrumentation involved in the physical and chemical analysis of raw and processed foods.
- **Microbiology 361. Food Microbiology.** (2:1:3)
- 370. Quantity Food Production and Service.** (2:1:3) F. (m) Prerequisites: FSN 110 or 264 and 265; or consent of instructor.
Standards and procedures for preparing and serving food to large groups. Planning menus and costing recipes.
- 380. Quantity Food Purchasing.** (2:2:0) F. Prerequisites: completion of or concurrent registration in FSN 370; FSN 264, 265.
Principles and methods of buying food for various types of institutions, with emphasis on specifications and factors affecting quality and food cost control.
- 400. Community Nutrition.** (2:1:2) S. (m) Prerequisite: FSN 255 or 335 or consent of instructor.
Theory and principles of public health nutrition and their application to specific community nutritional programs.
- 450. Food Chemistry.** (4:3:3) S. (m) Prerequisites: FSN 265, 264; Chem. 384, 385. Johnson
Chemistry of the chief components of food, and the effects of processing and storage on food constituents.
- 455. Diet Therapy.** (3:2:2) S. (m) Prerequisite: FSN 335. Bennion
The role of nutrition in times of stress and special need and as a therapeutic aid in treatment of disease.
- 461. Food Processing.** (3:2:3) F. (m) Prerequisites: FSN 264, 265. Call
Application of science in processing food. Characteristics of raw food materials; post-harvest physiology; methods of food preservation.
- 462. Food Quality Preservation.** (3:2:3) F. (m) Prerequisites: FSN 264, 265; completion of or current registration in Chem. 384, 385. Johnson
The science of preserving food quality during processing and storage. Factors affecting food acceptability; packaging of foods; food standards and regulations.
- 463. Food Unit Operations.** (4:2:6) S. Prerequisites: FSN 264, 265; Chem. 384, 385; Physics 201, 202. Call, Johnson
Engineering applied to food processing. Unit food operations including heat transfer, evaporation, dehydration, extraction, filtration, mixing, and milling.
- 470. Advanced Quantity Food Production.** (2:1:3) S. Prerequisites: FSN 370, 380.
Supervising preparation and service of food to large groups. Observing preparation and serving in community institutions. Methods in catering.

472. **Food Service Organization and Administration.** (3:2:3) S. Prerequisite: completion of or concurrent registration in FSN 470.
Management of financial and personnel problems in food service administration. Planning of institutional kitchens; selection and maintenance of equipment. Field trips required.
490. **Seminar.** (2:2:0) S. Prerequisites: 10 credit hours in food science and nutrition or consent of instructor. Bennion, Page
492. **Field Work in Food Science and Nutrition.** (6-8:0:20-24) Prerequisites: 12-15 credits in food science and nutrition; consent of department chairman.
594. **Special Problems in Food Science.** (1-2:0:3-6) Prerequisites: consent of instructor and department chairman. Bennion, Page
For students who have completed at least 12 hours in food science and nutrition. Independent study of a special problem in food science under direction of an instructor.
595. **Special Problems in Nutrition.** (1-2:0:3-6) Prerequisites: consent of instructor and department chairman.
For students who have completed at least 12 hours in food science and nutrition. Independent study of a special problem in nutrition under direction of an instructor.
635. **Advanced Human Nutrition I.** (3:3:0) F. (Offered 1971 and alternate years) Prerequisite: FSN 335 or equivalent.
Protein and amino acid nutrition; carbohydrate, lipid, and energy metabolism.
636. **Advanced Human Nutrition II.** (3:3:0) S. (Offered 1970 and alternate years) Prerequisite: FSN 335.
Mineral and vitamin metabolism.
662. **Flavor and Sensory Analysis of Food.** (2:2:0) S. (Offered 1972 and alternate years) Prerequisite: FSN 450 or equivalent. Johnson
A study of flavor chemistry and methodology in the sensory evaluation of food.
664. **Advanced Food Science I.** (2:2:0) F. (Offered 1970 and alternate years) Prerequisite: FSN 450 or equivalent. Bennion, Johnson
Protein foods; simple colloidal systems.
666. **Advanced Food Science II.** (2:2:0) S. (Offered 1971 and alternate years) Prerequisite: FSN 450 or equivalent. Bennion, Johnson
Carbohydrate and lipid food materials.
- 468A,B,C. **Food Plant Management and Operation.** (2:0:6 ea.) F.S. Prerequisites: FSN 461, 462, 463; Micro. 361 or 371. Hoskisson
Practical experience in food manufacturing and plant operation.
690. **Seminar in Food Science.** (1-2:1-2:0) F. Bennion
691. **Seminar in Nutrition.** (1-2:1-2:0) S.
695. **Methods of Research in Food Science and Nutrition.** (3:0:9) F. (Offered 1970 and alternate years)
697. **Research.** (1-3:Arr.:Arr.) F.S.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) Bennion

Forum Assemblies



Professor: J. LaVar Bateman (coordinator,
F570 HFAC.)

(An interdepartmental area only)

In 1958 Brigham Young University inaugurated a weekly series known as forum assemblies. The purpose of the assemblies is to bring to our campus men and women of recognized preeminence in their chosen fields and to hear their stimulating messages. Among those appearing in years past were John Ciardi, Dr. Charles Malik, Pearl Buck, Dr. Kenneth McFarland, and others of similar stature.

One-half hour credit per semester or one hour per year may be earned by registering for and attending a minimum of eleven forums each semester. Attendance is based on the honor system. Forum assembly credit may be carried above the normal class load. Grading, on a "pass" basis, will have no effect on grade-point average. Students must register for forum assemblies on the basis of their standing as freshmen, sophomores, juniors, or seniors. All students are encouraged to attend these provocative, intellectually rewarding assemblies.

Lower-Division Courses

- 101, 102. Lectures in Contemporary Civilization.** ($\frac{1}{2}$:1:0 ea.) F.S.
Open to freshman students only. Forum Lecturers
- 201, 202. Lectures in Contemporary Civilization.** ($\frac{1}{2}$:1:0 ea.) F.S.
Open to sophomore students only. Forum Lecturers

Upper-Division Courses

- 301, 302. Lectures in Contemporary Civilization.** ($\frac{1}{2}$:1:0 ea.) F.S.
Open to junior students only. Forum Lecturers
- 401, 402. Lectures in Contemporary Civilization.** ($\frac{1}{2}$:1:0 ea.) F.S.
Open to senior students only. Forum Lecturers

Genealogy

Assistant Professor: Wright (coordinator, 140 Social Hall).

Instructors: Bloxham, Johansson, Pratt.



Genealogy is a valuable study of man and the family, with emphasis on man's descent from common progenitors. A study of the subject is also of value to persons other than the genealogist, including the librarian, historian, sociologist, and the individual who desires a liberal education. The University has taken the lead in providing instruction in this area.

Competent researchers are in demand not only in the Church but also in libraries, archives, societies, family associations and in the Brigham Young University Genealogical Research Center. It is evident that a greater number of competent genealogists must be trained, for only through competent scientific genealogical research can a majority of these problems be solved.

The four-year program in genealogy leading to the baccalaureate degree outlines the curricula for North-American and English research. Other possible options are Scottish or Scandinavian genealogical research. A genealogical minor requires completion of 15 hours. Successful completion of the program should lead to accreditation in several areas. Elective courses in history, languages, political science, computer science and library science would greatly enhance the student's professional expertise. Potential employees of the LDS Genealogical Society should consider a foreign language to fill the B.A. requirements.

First Year			Second Year		
	F	S		F	S
Relig. 121, 122	2	2	Relig.	2	2
Engl. 111, 112	3	3	Biol. sci.; phys. sci.	3	3
Hist. 170; Health 130	3	2	Hum.; soc. sci.	3	3
Geneal. 265, 366	3	3	Geneal. 367, 495R	3	3
Geneal. 270, 371	3	3	Geneal. 300; hist.	3	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Electives, lib. sci.	2	3
Elective	2	3			
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	16	16
Third Year			Fourth Year		
	F	S		F	S
Relig.	2	2	Relig.	2	2
Biol. sci.; phys. sci.	3	3	B.S. or B.A. requirements	3	3
Geneal. 372, 310	3	3	Soc. sci.; hum.	2	3
Hist. or lang. elective	3	3	Geneal. 495R, 368	3	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Geneal. electives	3	3
Elective	4	4	Electives	3	3
Total Hours	15 $\frac{1}{2}$	15 $\frac{1}{2}$	Total Hours		17

Courses

265. North-American Research. (3:3:0) F.S.Su. Home Study also. (m) Wright
Methods, sources, and background peculiar to North-American genealogy, including survey sources and emphasizing vital, church, probate, land, military, and emigration records.

270. **British Research.** (3:3:0) F.S.Su. Home Study also. (m) Pratt
Methods, procedures, and background peculiar to British genealogy, with emphasis on major sources.
275. **Scandinavian Research.** (3:3:0) F.S.Su. Home Study also. (m) Johansson
History, geography, jurisdictions, handwriting, LDS records, emigration, and language necessary for research.
280. **Latin-American Research.** (3:3:0) S. (Offered 1971-72 and alternate years)
Methods, sources, and background relating to Latin-American genealogy, with emphasis on Mexican sources.
285. **German Research.** (3:3:0) S. (m) Johansson
Research methods, sources, and background peculiar to Germany, Austria, and Switzerland, including handwriting and language.
300. **Paleography and Heraldry.** (3:3:0) F. (m) Pratt
Application of court and secretary handwriting in England and the Colonies, with a study of heraldry and its value to research.
310. **Migration Patterns.** (3:3:0) S. (m) Prerequisite: Relig. 261. Pratt, Wright
Migration and its effect on genealogical research, with emphasis on causes, patterns, and routes in Britain and America.
366. **Northeastern States.** (3:3:0) S. (m) Prerequisite: Geneal. 265 or consent of instructor. Wright
Analysis and application of sources and genealogical technique peculiar to New York, Pennsylvania, Delaware, New Jersey, and New England.
367. **Southern States.** (3:3:0) F. (m) Prerequisite: Geneal. 265 or consent of instructor. Wright
Analysis and application of sources and genealogical technique peculiar to the South and Southwest.
368. **Midwestern States.** (3:3:0) F.S. (m) Prerequisite: Geneal. 265 or consent of instructor. Wright
Analysis and application of sources and genealogical technique peculiar to Ohio, Indiana, Illinois, Michigan, Wisconsin, Missouri, and the Plains States.
371. **England and Wales.** (3:3:0) S. Home Study also. (m) Prerequisite: Geneal. 270 or consent of instructor. Pratt
Analysis and application of English-Welsh civil registration, census, township records, parish registers, marriage indices and licenses, and non-conformist records.
372. **Early British Sources.** (3:3:0) F. (m) Prerequisite: Geneal. 270 or consent of instructor. Pratt
English-Welsh probates, military, and miscellaneous sources before 1500, with emphasis on research method and procedure.
373. **Scotland and Ireland.** (3:3:0) F. (m) Prerequisite: Geneal. 270 or consent of instructor. Bloxham
Analysis and application of Scottish-Irish vital, census, parish registers, testaments, deeds, and sasine records.
376. **Swedish-Finnish Sources.** (3:3:0) F. Home Study also. (m) Prerequisite: Geneal. 275 or consent of instructor. Johansson
Analysis and application of parish registers, clerical surveys, probate, land, court, and printed records.
377. **Danish-Norwegian Sources.** (3:3:0) S. (m) Prerequisite: Geneal. 275 or consent of instructor. Johansson
Analysis and application of parish registers, census, probate, military, land, court, and printed records.
- 495R. **Applied Research.** (3:2:3 ea.) F.S.Su. Prerequisite: completion of six hours in at least one geographical region.
Techniques in pedigree analysis, records evaluation, and a practicum in research relating to North America, Britain, Scandinavia, Germany, and Latin America.
- 498R. **Special Problems.** (2:Arr.:0 ea.) F.S.Su. Prerequisite: consent of instructor.
Note: For additional genealogical programs and courses, see Technical Institute and Religion.

General Curriculum

Associate Professor: DeHoyos.
Assistant Professors: Allman, Briggs.
Instructors: Banks (chairman, 172 FOB), Ben-
nion, Chatterley, Fox, Garbe, Hurd, Osborne,
Rigby, Sandberg, Sumpter.



This department is designed for those students who may not desire to pursue a four-year program. Under a four-year bachelor-degree program some lower-division course requirements fail to meet the needs of two-year students and of those students who for various reasons do not plan to graduate.

In order to more effectively meet the needs of these students, a well-rounded two-year general education program has been instituted, with greater emphasis upon practical application and life involvement. An associate degree will be awarded upon successful completion of the program.

The same academic requirements will be expected of students in the associate-degree program as are required for the four-year students. This program affords some special advantages:

1. The classes are limited in size to increase individualized help and guidance.
2. A staff of competent and highly-trained faculty members is available.
3. Students have a greater opportunity to excel at their own rate.

Interested students may contact General College for more detailed information.

Associate-Degree Requirements

In order to qualify for the associate degree in General College, a student must complete 64 semester hours, 20 of which must be in residence. Up to 12 credits may be taken by correspondence. A maximum of 10 credits of "D" may be accepted. A student is required to have a 2.0 cumulative grade-point average and a 2.0 grade-point average in work completed at Brigham Young University.

Each student must have his program planned with and approved by his major adviser. The basic course requirements for this degree are as follows:

General Education Requirements		Hum.	3
G.C. 105, 106, or equivalent	6	Total Semester Hours	32
Hist. 170	3		
P.E.	1		
Relig.	8		
G.C. 101, or equivalent	3		
G.C. 103, or equivalent	3	Department Requirements	
Health 130	2	Area of concentration	21
Soc. sci.	3	Electives	11
		Total Semester Hours	32

Courses

- 100. Fundamentals of Mathematics.** (3:4:0) F.S.Su. Hurd
Designed to develop an understanding of the basic structure of mathematics.
- ☐ **Business Education 100. Introduction to Business.** (3:5:0) F.
- ☐ **Physics and Astronomy 100. Essentials of Physics.** (3:3:0) F.S.Su.

101. **Introduction to Biological Science.** (3:3:3) F.S.Su. (G-BS) Allman
A survey course in the field of biological science.
- ☐ **Business Education 101. Beginning Typewriting.** (2:3:2) F.S.Su.
- ☐ **Mathematics 101. Intermediate Algebra.** (3:5:0) F.S.Su.
102. **Introduction to Biological Science II.** (3:3:2) F.S. Allman
A survey course in the field of biological science.
- 103, 104. **Introduction to Physical Science I, II.** (3:3:2 ea.) F.S. Banks, Bennion
A survey course in the field of physical science.
105. **Composition and Reading.** (3:5:0) F.S. (G-HA) Osborne, Rigby, Sumpter
Same course as Engl. 111, but meets two additional days a week for the first half of the semester. For students who need special help in freshman composition.
- ☐ **Mathematics 105. College Algebra.** (3:4:0) F.S.Su.
106. **English: Personal Communications.** (3:5:0) Prerequisite: G.C. 105.
Osborne, Rigby, Sumpter
For two-year students. Designed to develop ability to communicate effectively and to develop competence in specialized report writing for formal classes. (Does not fulfill freshman English requirements for a baccalaureate degree.)
107. **Introduction to Social Science.** (3:3:1) DeHoyos
An introduction to the social sciences.
- ☐ **Business Education 111. Elementary Shorthand.** (4:5:1) F.S.Su.
- ☐ **Sociology 111. Introductory Sociology.** (3:3:0) F.S.Su.
- ☐ **Business Education 112. Intermediate Shorthand.** (3:5:1) F.S.Su.
- ☐ **Sociology 112. Modern Social Problems.** (3:3:0) F.S.Su.
- ☐ **Mathematics 121. Technical Mathematics.** (3:2:3) F.S.
- ☐ **Religion 121, 122. Introduction to the Book of Mormon.** (2:2:1 ea.) F.S.Su.
- ☐ **Health Sciences 130. Personal Health.** (2:2:0) F.S.Su.
- ☐ **History 170. The American Heritage.** (3:3:0)
- ☐ **Business Education 203. Speedbuilding in Production Typewriting.** (2:3:2) F.S.Su.
- ☐ **Business Management 205. Personal Finance.** (2:2:0) F.S.
- ☐ **Business Education 206. Calculating Machines.** (2:3:2) F.S.Su.
- ☐ **Religion 211. The New Testament.** (2:2:0) F.S.Su.
- ☐ **Religion 231, 232. The Gospel in Principle and Practice.** (2:2:0 ea.) F.S.Su.
- ☐ **Business Education 275. Stenographic Procedures.** (4:3:3) F.S.Su.

General Education Honors



The Brigham Young University Honors Program offers a series of interdisciplinary general education courses for students in the Honors Program. The courses are taught by faculty from the established University departments, often functioning in teams; they are administered by the program directors. The GEH courses are offered in addition to Honors sections of regular general education courses offered in many departments. Additional GEH courses are in development. Details about the Honors Program may be obtained at the Honors Program office, 436 JRCL.

Courses

- 103H, 104H. Literature and the Arts.** (4:4:0 ea.) F.S. (G-HA)
Readings representative of important literary epochs and literary forms; seminars on music and visual arts.
- 111H, 112H. Mathematics and the Physical World.** (4:4:0 ea.) F.S. (G-PS)
Development of basic concepts in mathematics and the physical sciences, with contemporary applications.
- 401H. Man and the Contemporary World.** (3:4:0) F.S. (G-HA, SS) Prerequisite: junior standing in the Honors Program.
Readings and discussion on current problems and trends in the arts and social sciences.
- 402H. Man and Contemporary Science.** (3:4:0) F.S. Prerequisite: junior standing in the Honors Program.
Readings and discussions on current problems and trends in the natural sciences.

Geography



Professor: Layton (chairman, 167-A HGB).

Associate Professors: Grey, Millett, Tuttle.

Assistant Professors: Aamodt, Horiuchi, Stevens.

Instructor: Jackson.

The Geography Department offers a full program leading to both the B.S. and M.S. degrees. A major in geography provides training for a variety of employment opportunities. Graduates are engaged in teaching and in various positions in business and industry. They also work in planning, intelligence, cartography, and other government employment. The undergraduate major is designed to provide a general background which may lead into any of these fields. Students seeking employment in business, industry, or government agencies should usually anticipate some postgraduate work, either an academic program leading to an advanced degree or one of many in-service training programs offered by these employers.

Training in geography is also of value to students from other fields. The survey courses offer a broad, overall view of the earth and its problems. The advanced courses may be used to reinforce areas of major interest in terms of a particular part of the world or to learn techniques used by geographers in analysis of distribution of various physical or cultural features.

Geography Major

Students majoring in geography may complete their general education requirements with either the language or the mathematics, science, and logic sequence. Those planning on entering fields such as planning, industrial location, physical geography, or cartography should obtain a background in statistics and mathematics. Students specializing in area studies should select the language option. All majors should select courses from the above groups after consultation with their adviser.

The program listed for the geography major constitutes a 19-hour core of general material fundamental to all branches of the discipline plus 13 hours of course work which is directed toward the student's particular area of interest. These optional courses and the student's minor program must be arranged after consultation with the major adviser.

The following courses are required for a major:

Lower Division: Geog. 101, 102, 120, 211, 231.

Upper Division: Geog. 450, 504, 598; and electives selected in consultation with the student's adviser to make a total of 32 hours.

Geography Minor

It is suggested that a minor in geography include Geog. 101 and 120. The remaining eight hours should be chosen from courses marked (m) that are most closely related to the student's major field.

Teaching Major or Minor

Students planning to certify for teaching should check closely the listing of course requirements in the Education section of this catalog. The minor requirements differ from those listed above.

Master of Science Degree

Students planning to obtain an M.S. degree are required to take Geog. 601, 620, 630, 698, and 699; plus electives selected in consultation with their committee to total 30 hours. Graduate students should have Geog. 312 as a part of their undergraduate major, or be prepared to take this class in addition to the 30 hours listed above.

Courses

101. **Environment and Man.** (3:3:0) F.S. Home Study also. (G-SS m)
A general survey of the distribution of and processes concerned with the different factors of man's natural environment; i.e., landforms, climate, soils, natural resources.
102. **Environment and Man Laboratory.** (1:0:2) F.S. (m)
Laboratory experience with topics covered in Geog. 101. Must be taken concurrently with or subsequent to Geog. 101.
120. **Geography and World Affairs.** (3:3:0) F.S. Home Study also. (G-SS m)
A survey of the world stressing the human and economic geography of major political regions. Of special interest to all students who wish to broaden their knowledge of the problem areas of the world today.
211. **Introduction to Maps and Air Photos.** (2:1:2) F.S. (G-SS m) Layton
Maps and air photos as tools for teaching and research. Sources of maps and photos and practice in their use.
231. **Economic Geography.** (3:3:0) F.S. Home Study also. (G-SS m) Layton
A brief survey of the world's resource pattern. Origin, importance, and movement of major agricultural and mineral commodities in world affairs.
300. **Introduction to Geographical Literature.** (1:1:0) F.S. (G-SS m)
Introduction to basic source materials in geography to be taken as early as possible in major and minor programs.
312. **Map Drawing.** (3:1:4) S. (m) Layton
Maps as a means of recording information. Methods of illustrating various types of data and preparation of maps for reproduction and publication.
332. **World Resources.** (2:2:0) S. (G-SS m) Prerequisite: Geog. 231.
Geographical analysis of the world's resource patterns.
401. **Geography of Climates.** (3:3:0) F. (m) Prerequisites: Geog. 101 and 102 or consent of instructor. Grey
The elements, controls, distribution, and classification of the climates of the earth.
405. **Geography of Landforms.** (2:2:0) S. (m) Prerequisites: Geog. 101 and 102 or consent of instructor. Grey
The elements of landforms, their distribution, and cultural significance.
441. **Political Geography.** (3:3:0) F.S. (G-SS m) Horiuchi
The physical, political, economic, and social elements of political geography and analysis of the power structure of the world's major powers.
450. **North America.** (3:3:0) F.S. Home Study also. (G-SS m) Tuttle
The United States and Canada, including climates, landforms, natural resources, agriculture, and industries.

451. **Historical Geography of North America.** (3:3:0) S. (G-SS m) Jackson
The significance of climate, landforms, location, resources, and other geographic factors in the settlement of North America.
455. **Latin America.** (3:3:0) F. Home Study also. (G-SS m) Layton
Physical and cultural geography of the nations of South and Middle America.
460. **Europe.** (3:3:0) S. Home Study also. (G-SS m) Millett
The land and how man is utilizing the natural and human resources of Europe. Emphasis on human geography of major political regions.
465. **USSR and Its Satellites.** (3:3:0) S. (G-SS m) Aamodt
A concentrated study of the physical features, resources, agriculture, industries, and distribution of peoples.
470. **Asia.** (3:3:0) F. (G-SS m) Horiuchi
Geography of one-third of the earth and two-thirds of its people. Man's use of his natural environment.
475. **Africa.** (3:3:0) F. (G-SS m) Aamodt
Systematic regional treatment of physical, economic, political, and cultural geography of Africa.
480. **Australia and New Zealand.** (2:2:0) F. (G-SS m) Grey
- 490R. **Readings.** (1:0:2) F.S.
For majors only.
493. **Special Problems.** (1-2:1-2:0) F.S.
For majors only.
501. **Geography for Teachers.** (3:3:0) S. Stevens, Layton
A systematic approach to the fundamentals of geography, emphasizing source materials, teaching methods, tools, and techniques.
504. **Geographic Field Techniques.** (2:1:2) S. Millett
For majors only.
520. **Quantitative Methods in Geography.** (3:3:0) S. Prerequisite: Math. 105 or equivalent.
Application of quantitative methods in geography.
522. **Urban Geography.** (3:3:0) F. (G-SS m) Aamodt
Distribution of urban areas, their development, internal land use patterns, and functions in the world's economy.
533. **Industrial Geography.** (3:3:0) S. (m) Prerequisite: Geog. 231.
Layton, Stevens
A systematic analysis of location patterns of major industries in the United States; raw materials, power resources, and other factors in industrial location.
553. **Geography of Utah.** (2:2:0) S. (G-SS) Stevens
A study of the state's cultural and physical characteristics, their distribution and significant interrelationships.
556. **South America.** (2:2:0) S. Prerequisite: Geog. 455. Layton
557. **Caribbean Area.** (2:2:0) Prerequisite: Geog. 455. Layton
561. **Western Europe and the Mediterranean.** (2:2:0) Prerequisite: Geog. 460.
Millett
A comprehensive study of the systematic and regional geography of non-Communist Europe.
571. **Problems of Asia.** (2:2:0) F. Prerequisite: Geog. 470. Horiuchi
A comprehensive study of the systematic and regional geography of Asia.

580. **Geography of Underdeveloped Areas.** (2:2:0) F. (G-SS) Prerequisite: consent of instructor. Aamodt, Horiuchi
Physical, economic, and human geography as it affects the world's underdeveloped areas, with emphasis on future development possibilities.
598. **Seminar in Techniques of Research and Presentation.** (2:2:0)
A proseminar concentrating on the scholarly use of the printed and manuscript materials in the different aspects of geography and the effective presentation of research findings in written and oral form.
601. **Physical Geography.** (2:1:2) F. Grey
620. **Cultural Geography.** (2:1:2) S. Aamodt
630. **History and Philosophy of Geography.** (2:2:0)
The development of geographical thought since classical times. Major concepts concerning the nature, scope, and methodology of the discipline.
- 690R. **Readings.** (1:0:2) F.S.
695. **Special Problems.** (1-2:1-2:0) F.S.
698. **Seminar in Systematic Geography.** (2:2:0)
A detailed investigation into selected aspects of systematic geography.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.



Members of geography faculty checking aerial photographs

Geology



Professors: Bissell, Bullock, Hamblin, Hansen, Hintze, Phillips, Rigby (chairman, 275 ESC).

Associate Professors: Best, Brimhall, Bushman, Petersen.

Assistant Professors: Baer, Braithwaite.

Curator: Jensen.

Geology offers an unusually wide variety of attractive career possibilities to students whose interests lie within the physical or life sciences. A graduate in geology may anticipate a position, with better-than-average pay, in a minerals industry, university, or some governmental agency. He often enjoys opportunities for worldwide travel and for leadership in rapidly-developing areas of geology like oceanography or lunar geology, with nearly any allowable balance between outdoor field studies and indoor laboratory investigation.

The Department of Geology offers bachelor degrees in geology, earth science, and geological engineering. The earth science major is for prospective secondary school teachers and for others with interest in geology but who do not plan a professional geology career. The geological engineering major leads to a professional degree. The geology major offers a well-balanced core curriculum leading to a professional career in geology.

Geology Major. The four-year program leading to the Bachelor of Science degree in geology requires of all students a standard core of geology courses representing all major phases of geology with supporting work in chemistry, physics, mathematics, and biology. The nonspecialized curriculum is designed to provide maximum flexibility for early employment or a broad, well-rounded background for graduate studies. The capable student is strongly encouraged to plan for studies beyond the bachelor degree and to select those elective courses which will strengthen his area of special interest.

It is expected that a student majoring in geology shall have met the general entrance requirements of the College of Physical and Engineering Sciences and shall complete all general education requirements of Brigham Young University as outlined in the General Education section of this catalog. Each student seeking the Bachelor of Science degree in geology shall successfully complete the following courses, or their accepted equivalent at another institution:

Geology courses: Geol. 111 (4), 112 (4), 351 (5), 352 (3), 311 (4), 312 (1), 313 (3), 410 (4), 460 (4), 470 (3), and 480 (4).

Supporting courses: Math. 105 (3), 106 (3), and 109 (4); Stat. 221 (3) (recommended); Chem. 105 (4) and 106 (4), or 111 (5), 112 (5), 113 (2) and 114 (2); Physics 201 (5) and 202 (5), or 211 (5), 213 (4), and 214 (1).

Geology students with special interest in paleontology may substitute Zool. 202 (4) and 203 (4) or 363 (4) for the physics requirement.

The Department of Geology recommends the following courses for partial fulfillment of University, undergraduate, and general education requirements:

Zool. 105 (3) and Bot. 105 (3) (biological science), Anthrop. 101 (3) and Geog. 101 (3) or 231 (3) (social science), Phil. 101 (3) (humanities and fine arts).

Recommended Curriculum for Bachelor of Science Degree in Geology

Freshman Year				Junior Year			
	F	S			F	S	
Geol. 111, 112	4	4		Geol. 311, 312	4	1	
Math. 105, 106	3	3		Geol. 313		3	
Engl. 111, 112	3	3		Physics 201, 202	5	5	
Bot. 105 (recom.)		3		Zool. 105	3		
Health 130	2			Geog. 101 or 231			
P.E. ½	½	½		(recom.)		3	
Relig. 121, 122	2	2		Electives (hum.)	2	2	
				Relig.	2	2	
	14½	15½			16	16	
Sophomore Year				Summer School			
	F	S				Su	
Geol. 351, 352	5	3		Geol. 410		4	
Chem. 105, 106	4	4					
Math. 109		4					
Stat. 221 (recom.)	3						
Hist. 170		3					
Upper-division							
hum. course	2						
P.E. ½	½	½					
Relig.	2	2					
	16½	16½					
					16	16	
				Senior Year			
	F	S			F	S	
				Geol. 470, 460	3	4	
				Geol. 480	4		
				Anthrop. 101 (recom.)		3	
				Relig.	2	2	
				Electives	7	7	
					16	16	

Elective hours in the senior year are left to the discretion of the student. Used wisely, the electives can greatly strengthen any area of special interest and can supply a very strong undergraduate background for the pursuit of graduate work in any phase of geology at any major university.

Graduate Studies in Geology. The Department of Geology offers graduate study leading to the Master of Science degree in geology and the Doctor of Philosophy degree in geology within five major areas of specialization. Below are listed those geology course numbers under the major area heading to which they apply:

1. Paleontology:
Geol. 507, 510, 512, 540, 551, 574, 575, 576, 577, 580, 581, 582, 583, 680, 682, and 685; Bot. 539 and 678.
2. Stratigraphy and Sedimentation:
Geol. 507, 510, 511, 512, 540, 551, 574, 575, 576, 577, 583, 670, 671, 672, and 678.
3. Structural and Field Geology:
Geol. 507, 510, 511, 512, 530, 540, 551, 610, 615, 657, 670, 671, 672, and 678.
4. Mineralogy, Geochemistry, and Petrology:
Geol. 507, 510, 512, 540, 544, 545, 546, 551, 552, 561, 562, 655, 656, 657, 671, and 672; Physics 581 and 582.
5. Economic Geology:
Geol. 507, 510, 512, 520, 530, 535, 540, 544, 545, 546, 551, 552, 561, 562, and 563.

Geol. 512 (Geology and North America) is required of all graduate geology students.

It is assumed that any student seeking any graduate degree in geology at Brigham Young University has had undergraduate preparation essentially equivalent to that required by the Geology Department of Brigham Young University; otherwise, remedial undergraduate work may be required.

Master's Degree in Geology. (For general requirements see Graduate School regulations.) Departmental requirements specifically for the Master of Science degree in geology are

1. Written exploratory examination covering undergraduate studies given at the beginning of the graduate program at the discretion of the geology faculty.
2. At least fifteen hours of formal course work in one of the five major areas listed above and at least nine hours of formal course work in a minor field.
3. Comprehensive oral examination on graduate course work prior to thesis defense.
4. Six hours of thesis work embodying the results of research under the supervision of a faculty thesis committee chairman.
5. Final oral examination on thesis research.

Doctor of Philosophy Degree in Geology. (For general requirements see Graduate School regulations.) Departmental requirements specifically for the Doctor of Philosophy degree in geology are

1. Written exploratory examination covering undergraduate and previous graduate studies, given at the beginning of the Ph.D. program and at the discretion of the geology faculty.
2. Completion of formal course work, as outlined by the student's graduate advisory committee, in one of the five major areas listed above and completion of a minor field. (The minor may be in a related field outside the Department of Geology in which upper-division and graduate courses will be acceptable.)
3. Successful completion of Graduate School foreign language requirements.
4. Comprehensive examination after sixty hours of graduate study and at least one academic year prior to graduation.
5. Dissertation embodying the results of original, independent research.
6. Oral defense of the dissertation before a formally-appointed committee at the close of the final year of study.

Earth Science Major. Earth science combines the more descriptive phases of geology with those of astronomy, meteorology, and geography for those who seek careers in secondary science education or those with nonprofessional aspirations in geology

There is an increasing demand for teachers prepared to teach earth science. This subject is widely recognized as a most appropriate and popular science subject in the seventh, eighth, and ninth grades. Teachers preparing in earth science must fulfill the requirements outlined below including those courses required for state certification. Prospective teachers who plan to use geology as a composite major or minor should refer to the Education section of this catalog for required curriculum.

Earth science majors who pursue nonteaching and nonprofessional status in the geological science may substantially extend their choice of courses by substituting upper-division electives in geology for education courses.

All students majoring in earth science are required to take 52 credit hours from the following list of courses with a minimum in each group as follows: 20 hours in geology, 12 hours in physics, 8 hours in chemistry, 4 hours in mathematics, and 5 hours in geography. This leaves 3 hours for elective choice.

Geology: 111 (4), 112 (4), 311 (4), 312 (1), 313 (3), 351 (5), 352 (3), 410 (4), 460 (4), 470 (3), 480 (4), 502 (2) (this course is for teachers only).

Physics and Astronomy: 127 (3), 137 (3), and either 100, 101 (6) or 201, 202 (10) or 211, 213, 214 (10).

Chemistry: 105 (4), 106 (4).

Mathematics: 105 (3), 106 (3), 109 (4), 111 (5), 112 (4), 113 (4).

Geography: 211 (2), 401 (3).

Prospective earth science teachers are required to take Geol. 502 (2); Zool. 105 (3), 344 (4); Bot. 110 (3) and 205 (2).

It is recommended that earth science majors take the following classes in filling the University general education group requirements: Geog. 101 and Anthropol. 101.

For those intending to take additional classes in mathematics, chemistry, or physics, or who plan to secure a master's degree in any phase of science education, it is strongly recommended that Math. 111, 112, and 113 be taken. Physics 211, 213, and 214 should be taken in preference to 100 and 101, and followed by Physics 315 if possible.

Students with a good background in biology who desire giving a stronger emphasis to zoology should take any combination of the following courses in place of Zool. 105 and 344; Zool. 202, 203, and 331. This would enable them, with the approval of advisers in geology and zoology, to have a wider selection of upper-division courses and 500- and 600-numbered courses if they do graduate work.

The following education courses must be taken by those wishing to fulfill state teaching requirements: Ed. 301 (2), 310 (2), 362 (2), 377 (3), 403 (4), 415 (2), 479 (8), for a total of 23 hours. (For additional information consult the Education section of the catalog.)

Total hour requirements for graduation in earth science:

A. Earth Science Teaching Degree

52 hrs. major-minor
12 hrs. biological science
37 hrs. general education
23 hrs. education
4 hrs. electives

128 hrs. (16 hrs./semester)

B. Terminal Degree in Earth Science

52 hrs. major-minor
43 hrs. general education
33 hrs. electives (upper div.)

128 hrs. (16 hrs./semester)

Recommended Curriculum for B.S. Teaching Degree in Earth Science

Freshman Year		Sophomore Year		
	F	S	F	S
Geol. 111		4	Geol. 112	4
Math. 111	5		Geol. 351, 352	5
Chem. 105, 106	4	4	Physics 100, 101	3
Engl. 111, 112	3	3	Hist. 170	3
Health 130	2		Geog. 211	2
P.E. ½		½	P.E. ½	½
Relig. 121, 122	2	2	Relig.	2
Geog. 101		2	Bot. 110	3
			Electives	1
	16½	15½		16½
Junior Year		Senior Year		
	F	S	F	S
Geol. 502		2	Bot. 205	2
Geog. 401	3		Zool. 344	4
Physics 127, 137	3	3	Relig. (2nd block)	2
Zool. 105	3		Ed. 415	2
Relig.	2	2	Ed. 479 (1st block)	8
Ed. 301	2		Health 362	2
Ed. 310	2		Engl. lit. (2nd block)	6
Ed. 377		3	Geol.	2
Ed. 403		4	Electives	1
Anthrop. 101		3		
Electives	1			
	16	17		15

Graduate Studies in Earth Science. The requirements for a Master of Arts degree in earth science include (1) a minimum of 12 hours in geology and 12 hours from the associated fields of chemistry, physics, mathematics, geography, botany, and zoology; (2) a comprehensive examination of graduate course work prior to the thesis defense; (3) a thesis representing research work in the field of earth science under a faculty member's supervision for a total of six hours; (4) a final oral examination on the research thesis. (See Graduate School regulations for general requirements.)

Selections are to be made from the following courses:

Geology: 507 (2), 510 (1-3), 511 (3), 512 (4), 540 (2), 577 (3), 682 (3)
(plus upper-division courses not previously taken)

Physics and Astronomy: 300 (3); 527 (3), 528 (3), 536 (3) 537 (3) (Math. 111, 112, 113, Physics 211 and 213 are required prerequisites for the sequence starting with 527, or consent of instructor.)

Chemistry: 351 (3), 352 (3), 353 (1-2), 514 (3), 598 (Arr.) (Chem. 514 requires 223 as prerequisite or consent of instructor.)

Botany: 321 (3), 331 (5), 440 (3), 455 (2), 460 (2), 510 (3), 525 (3), 539 (3), 550 (3), 557 (2), 620 (3), 655 (2)

Zoology: 543 (2), 545 (2), 546 (2), 547 (2), 357 (2), 325 (1), 376 (3), 378 (1), 321 (2), 601 (2), 578 (2), 591 (1) (Students who are able to take 203 and 202 or 331 as an undergraduate because of a good biological background in high school could take a number of additional advanced courses which would be determined by consultation with his major professor and the Department of Zoology.)

Mathematics: 300 (3), 301 (3), 302 (3), 371 (3), 501 (3), 502 (3), 629 (2) (Math. 111 is a prerequisite for 301, and Math. 112 is a prerequisite for 300 and 302.)

Geography: 405 (2), 601 (2)

Geological Engineering Major. The curriculum for geological engineering is a five-year professional program leading to the degree of Bachelor of Engineering Sciences (BES).

As engineering, in general, tends to be concerned with application of the principles of physics, chemistry, and mathematics to the practical problems of industry, geological engineering applies the additional principles of geology to practical problems of the minerals industries and other phases of engineering. Geological engineers tend to concentrate their efforts in one of the four following areas in interest depending upon the practical application of their training: (1) petroleum, (2) mining, (3) groundwater, and (4) heavy construction.

Electives in the senior and fifth-year curricula allow concentration in one or more of these major areas.

Required Curriculum for Geological Engineering

Freshman Year			P.E.	$\frac{1}{2}$	$\frac{1}{2}$
	F	S	Hist. 170		3
Geol. 111*	4			16 $\frac{1}{2}$	18 $\frac{1}{2}$
Geol. 112		4			
Engl. 111, 112	3	3			
Math. 111, 112	5	4			
			Junior Year		
	F	S		F	S
C.E. 100	1		Geol. 351, 352	5	3
C.E. 101		2	Geol. 311, 312	4	1
Relig. 121, 122	2	2	Geol. 313		3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Math. 321	3	
Health 130	2		C.E. 102, 201	2	2
	17 $\frac{1}{2}$	15 $\frac{1}{2}$	M.E. 321		3
			Relig.	2	2
Sophomore Year			Zool. 105 (recom.)		3
	F	S	Hum. (Phil. 101		
Math. 113, 214	4	3	recom.)	2	
Chem. 111, 112, 113,					
114	5	5		18	17
Physics 211, 213	5	4			
Physics 214		1			
Relig.	2	2			
			Summer Junior Year		
			Geol. 410		4

*Geol. 330 (Geology for Engineers) may be substituted for Geol. 111.

Senior Year			Fifth Year		
	F	S		F	S
Geol. 470, 460	3	4	C.E. 341, 431	4	3
C.E. 211	2		Soc. sci. (Geog. 231		
C.E. 303, 332	3	3	recom.)		3
Relig.	2	2	Hum. elective	4	
Bot. 105 (recom.)	2		Professional electives* ..	9	11
Soc. sci. electives		2			
Professional electives* ..	4	5		17	17
	16	16			

*During the senior and fifth years, 25 to 33 semester hours may be selected from the following professional electives:

- Agron. 282. General Soils (4:3:3) F.S.
- Agron. 303. Soil Genesis (3:2:3) F.
- Geol. 512. Geology of North America (4:3:2) S.
- Geol. 520. Petroleum Geology (4:4:0) F.
- Geol. 535. Ground Water (4:4:0) S.
- Geol. 544. Geochemistry Laboratory (2:1:2) F.
- Geol. 545. Geochemistry (3:3:0) S.
- Geol. 546. Isotope Geology (2:2:0) S.
- Geol. 551. Optical Crystallography (4:2:4) S.
- Geol. 561. Ore Deposits (4:4:0) F.
- Geol. 562. Industrial Minerals and Rocks (3:3:0) S.
- Geol. 563. Mining Geology (3:3:0) S.
- Geol. 610. Structural Geology (3:3:0) S.
- Geol. 615. Photogeology (3:1:4) S.

Courses

101. Introduction to Geology. (2:2:0) F.S.Su. Home Study also. (G-PS m)

Phillips

A cultural nontechnical course dealing with physical geology. Designed for the nonscience student who desires a broad introduction to earth science and a greater appreciation of his surroundings. May be taken with or without Geol. 102.

102. Introduction to Geology Laboratory. (1:0:2) F.S.Su. (G-PS m)

Laboratory course (including local field trips) in which common rock and ore-forming minerals and common rocks will be studied.

103. Life of the Past. (3:3:0) F.S.Su. Home Study also. (G-PS m)

Petersen

A cultural nontechnical course in historical geology. Designed for the nonscience student who desires an understanding of life forms and general historical events of the geologic past. Fossils studied in laboratory.

104. Environmental Geology. (3:2:2) F.S. (G-PS m)

A cultural nontechnical course emphasizing geological and environmental consequences of urban development and industrial pollution.

111. Physical Geology. (4:3:2) F.S. (G-PS m)

Hamblin

Materials, structure, and surface features of the earth, and the geologic processes involved in their development. Field trips cost approximately \$25. Not recommended for students who have taken Geol. 101 and 102.

112. Historical Geology. (4:3:2) F.S. (G-PS m) Prerequisite: Geol. 111. Hintze

The history of the earth and the evolution of its inhabitants. Representative fossils are studied in the laboratory. Required field trips cost approximately \$35.

306. Landforms and Their Origin. (3:3:0) F. Home Study also. (Offered 1971-72 and alternate years) (G-PS m) Prerequisite: Geol. 101 or Geol. 111.

Bushman

The earth's landscape features and their origin. Designed especially for nonmajors.

- 311. Structural Geology.** (4:3:2) F. Prerequisites: Geol. 352 and Math. 111. Baer
Structural and physiographic features of the earth's crust and forces and agents which have produced them.
- 312. Geological Literature and Scientific Report Writing.** (1:1:0) S. Prerequisite: successful completion of Junior English Proficiency Exam. Hintze
Introduction to indexes and various sources of geologic literature. Written exercises on format, style, and expression of various kinds of geologic reports.
- 313. Geologic Methods.** (3:2:2) S. Prerequisite: Geol. 311. Bissell
Practice training in methods of geologic field work and the use of field instruments; office practice in geologic illustration.
- 330. Geology for Engineers.** (3:2:3) F.S. Best
Origin and occurrence of earth materials and structures emphasizing geologic processes related to engineering problems in underground water, foundation structures, and use of earth materials.
- 351. Mineralogy.** (5:3:4) F. (m) Prerequisite: completion of or concurrent registration in Chem. 105 or 111. Phillips
Crystallography and crystal chemistry and their expression in physical and crystallographic properties of minerals. Hand specimen identification of rock-forming minerals.
- 352. Petrology.** (3:2:2) S. (m) Prerequisites: Geol. 351; completion of or concurrent registration in Chem. 106 or 112. Best
Nature and origin of rocks, as revealed in their section, hand specimen, and in the field.
- 410. Summer Field Camp.** (4:0:40) Su. only; see summer catalog. Prerequisites: Geol. 313, 492.
A five-week summer field camp in geologic mapping. Required of all geology and geological engineering majors.
- 460. Principles of Economic Geology.** (4:3:2) S. Prerequisite: Geol 352. Bullock
Principles and processes of formation of metallic, nonmetallic, and mineral fuel deposits and their occurrence. Laboratory study of the common ore-forming minerals.
- 470. Stratigraphy and Sedimentation.** (3:2:2) F. Prerequisite: Geol. 352. Bushman
The study of sediments, sedimentary rocks, and the principles of stratigraphy.
- 480. Introduction to Paleontology.** (4:3:2) F. Prerequisite: Geol. 112. Petersen
Systematic study of fossil remains of invertebrate animals, and introductory study of their structure, distribution, and development in past ages.
- 492. Seminar for Summer Field Camp.** (1:1:0) F.S.Su.
- 496. Readings in Geology (Honors Program).** (1-2:0:3-6) F.S. Hamblin
Directed reading of challenging books and articles dealing with fundamental geologic problems.
- 501. Rocks and Minerals.** (2:2:0) F.S. (m) Bullock
Study of fundamentals of rock and mineral classification and identification. Designed to acquaint students with earth's common raw materials, occurrences, and uses. For nongeology majors.
- 502. Geology for Teachers.** (2:2:0) S.Su. (m) Prerequisites: Geol. 101 and 102, or Geol. 103, or Geol. 111. Bushman
Designed to aid junior and senior high school teachers of earth science or geology. Emphasis on materials and methods useful for the classroom.
- 507. History of Geology.** (2:2:0) F. (Offered 1970-71 and alternate years) Bushman
The historical development of geology and the men who contributed

to it; the concepts and philosophy that make geology distinct from other sciences.

- 510. Conducted Field Trips.** (1-3:Arr.:Arr.) S.Su. Prerequisite: Geol. 101, 103, or 111.

Visits to and explanations of a variety of geologic features spectacularly displayed in the Intermountain West. Credit varies with number and length of trips in which student participates, but in general 30 hours will be spent in the field for each credit hour. Maximum credit allowable is 3 hours.

- 511. Geomorphology.** (3:3:0) F. (Offered 1970-71 and alternate years) Bushman
Description of land forms and evaluation of processes that formed them, with application to paleogeography and economic geology.

- 512. Geology of North America.** (4:3:2) S. Rigby
A region-by-region study of the areal geology, physiography, and geologic development of Canada, the United States, and Mexico.

☐ **Chemistry 514. Inorganic Chemistry.** (3:3:0)

- 520. Petroleum Geology.** (4:4:0) F. (Offered 1971-72 and alternate years) Hansen
Origin, classification, physical properties, distribution, accumulation, and methods of exploration of petroleum.

- 530. Engineering Geology.** (3:3:0) F. (Offered 1970-71 and alternate years) Hansen
Geological principles and phenomena important to an understanding of engineering problems (especially civil engineering), and the relationships which exist between the science of geology and the practical aspects of engineering.

- 535. Ground Water.** (4:4:0) S. (Offered 1970-71 and alternate years) Hansen
Origin, classification, migration, distribution, and production of water found beneath the earth's surface.

☐ **Botany 539. Paleobotany.** (3:2:3) S. Tidwell

- 540. Geophysics and Constitution of the Earth.** (2:2:0) F. (Offered 1971-72 and alternate years) Best
Introduction to seismic, gravitative, magnetic, and thermal behavior of the earth, emphasizing application of these to interpretation of mantle and crustal phenomena.

- 544. Geochemistry Laboratory** (2:1:2) F. Prerequisite: consent of instructor. Brimhall
The use of modern spectroscopic instruments for the acquisition of chemical and isotopic data on geological materials.

- 545. Geochemistry.** (3:3:0) S. (Offered 1970-71 and alternate years) Prerequisite: consent of instructor. Brimhall
Investigation of geological materials and processes from a chemical point of view.

- 546. Isotope Geology.** (2:2:0) S. (Offered 1971-72 and alternate years) Pre-requisite: consent of instructor. Brimhall
Geochronology and stable isotope geochemistry.

- 551. Optical Crystallography.** (4:2:4) S. Prerequisites: Geol. 351, Physics 202 or 213. Phillips
Behavior of light in isotropic and anisotropic media and its application to mineral identification in fragments and thin section using the universal stage.

- 552. Igneous and Metamorphic Petrography.** (3:2:2) F. Prerequisites: Geol. 352 and 551. Phillips
Microstructures, textures, and mineral associations in igneous and metamorphic rocks.

- 561. Ore Deposits.** (4:4:0) F. Prerequisite: Geol. 460. Bullock
Metallic ore deposits, their origin, classification, and distribution. Major ore deposits of the United States will be studied.
- 562. Industrial Minerals and Rocks.** (3:3:0) S. (Offered 1970-71 and alternate years) Prerequisite: Geol. 460. Bullock
Study of industrial minerals and rocks, their mode of occurrence, distribution, and application in the modern world.
- 563. Mining Geology.** (3:3:0) S. (Offered 1971-72 and alternate years) Pre-Prerequisite: Geol. 460. Bullock
Study of major mineral commodities of the world, including their geologic occurrence, exploration, development, mining methods, beneficiation, processing, utilization, and statistics.
- 574. Principles of Stratigraphy.** (3:2:2) F. (Offered 1970-71 and alternate years) Prerequisite: Geol. 470. Bissell
Study and interpretation of stratified rocks; principles of their origin, distribution, and correlation.
- 575. Precambrian and Paleozoic Stratigraphy.** (3:3:0) F. (Offered 1970-71 and alternate years) Hintze
Synthesis of regional stratigraphic relation in North America.
- 576. Mesozoic and Cenozoic Stratigraphy.** (3:3:0) S. (Offered 1970-71 and alternate years) Hamblin
Basins of deposition of Mesozoic and Cenozoic rocks in the U.S., and key fossils associated with them. Special emphasis on the distribution of these rocks in the state of Utah.
- 577. Oceanography.** (3:3:0) F. (Offered 1971-72 and alternate years) Prerequisite: Geol. 470. Hamblin
Study of physical processes operating within oceans and resulting shoreline topography, sedimentary patterns, and sea floor features.
- 580. Invertebrate Paleontology (Protozoans Through Brachiopods).** (4:3:2) F. (Offered 1971-72 and alternate years) Rigby
Morphology, paleoecology, evolution, and stratigraphic significance of invertebrates. Basic course for students in paleontology or stratigraphy.
- 581. Invertebrate Paleontology (Mollusks Through Hemichordates).** (4:3:2) S. (Offered 1971-72 and alternate years) Petersen
Continuation of Geol. 580.
- **Physics and Astronomy 581. Introduction to X-Ray Diffraction Analysis.** (3:2:3) F. Barnett
- **Physics and Astronomy 582. X-Ray Crystallography.** (3:2:3) S. Barnett
- 582. Biostratigraphy.** (3:2:2) F. (Offered 1971-72 and alternate years) Pre-requisite: Geol. 480 or 581. Braithwaite
Fossils in their stratigraphic setting and principles of paleontologic chronology.
- 583. Palynology.** (3:2:3) F. (Offered 1970-71 and alternate years) Prerequisites: Bot. 105; Geol. 480. Bushman
Fossil and modern spores and pollens techniques of extraction and identification, application to problems of stratigraphic correlation and paleoecologic interpretation.
- 591R. Seminar.** (1:1:0 ea.) F.S.
- 610. Structural Geology.** (3:3:0) S. (Offered 1971-72 and alternate years) Baer
Earth structures and their origin, emphasizing sequence of tectonic events and their global significance.
- 615. Photogeology.** (3:1:4) F. (Offered 1971-72 and alternate years) Hintze
Techniques useful to practicing geologists; use of parallax bar and various instruments applicable to contact print photos.

- 655. Igneous Petrology.** (5:4:3) (Offered on demand) Prerequisite: Geol. 551.
Best
Origin and crystallization of behavior of magmas, with emphasis on crystal-liquid relations in simple experimental systems.
- 656. Metamorphic Petrology.** (3:2:3) (Offered on demand) Prerequisite: Geol. 655.
Best
Subsolidus mineral equilibria; thermodynamic concepts; geologic variables in metamorphic systems; graphical analysis of mineral assemblages.
- 657. Structural Geology of Metamorphic Rocks.** (3:2:3) (Offered on demand) Prerequisite: Geol. 311.
Best
Graphic analysis of linear and planar structures in simple and complex fold systems; mechanical behavior of strained rocks.
- 670. Sedimentation and Sedimentary Tectonics.** (3:2:2) S. (Offered 1970-71 and alternate years)
Bissell
Fundamental concepts in the science of sedimentology, and tectonic environments which control sedimentation.
- 671. Sedimentary Petrology—Carbonate Rocks.** (3:3:2) F. (Offered 1971-72 and alternate years)
Bissell
Field and laboratory classifications and studies of carbonate sedimentary rocks.
- 672. Sedimentary Petrology—Clastic Rocks.** (3:2:2) S. (Offered 1971-72 and alternate years) Prerequisite: Geol. 470.
Hamblin
Field and laboratory study and classification of clastic rocks, particularly sandstones.
- ☐ **Botany 678. Organic Evolution.** (3:3:0) S.
Stutz
- 678. Subsurface Methods.** (3:2:2) F. (Offered on demand) Prerequisite: Geol. 551.
Baer
Subsurface methods and techniques as they apply to practical subsurface exploration.
- 680. Micropaleontology.** (3:2:2) S. (Offered 1970-71 and alternate years) Prerequisite: Geol. 480 or 581.
Braithwaite
Systematic study of geologically important microfossils, including techniques, morphology, and stratigraphic significance. Conodonts, ostracodes, and foraminifera are stressed.
- 682. Vertebrate Paleontology.** (3:3:0) F. (Offered on demand) Prerequisite: Geol. 480 or 581, or consent of instructor.
The backboneed animals through time (Agnatha through Mammalia). Morphology, ecology, phylogeny, and stratigraphic significance are stressed.
- 685. Paleocology.** (4:3:2) F. (Offered 1970-71 and alternate years) Prerequisite: Geol. 480 or 581.
Rigby
Interpretation of ancient environments and a systematic treatment of major taxonomic groups from the professional literature.
- 696. Reading and Conference in Geology.** (1-4:1-4:0) F.S.Su.
- 697. Directed Field Studies.** (1-6:Arr.:Arr.) F.S.Su.
Supervised field work in any of the fields of specialization in geology for candidates for master's degree.
- 698. Research.** (1-4:1-4:0) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su. (m)
- 797. Directed Field Studies.** (1-6:Arr.:Arr.) F.S.Su.
Supervised field work in any of the fields of specialization in geology for candidates for Ph.D. degrees.
- 799. Dissertation for Doctor of Philosophy Degree.** (Arr.) F.S.Su.

Guided Studies



Professor: Reid.

Associate Professor: Mayfield.

Assistant Professor: Herlin (chairman, West Crandall House).

Many students entering universities are not well equipped to do the academic work required of them. The purpose of the Department of Guided Studies of General College is to provide assistance that will enable such students to compete more effectively in their academic endeavors. Improvement classes are offered in such skills as reading, writing, mathematics, spelling, and effective study.

All students who enter the University on academic warning or probation are temporarily assigned to the Department of Guided Studies, regardless of their choice of major subject. Specific policies and procedures which have bearing on these students are listed below:

1. They are required to enroll in the Department of Guided Studies regardless of their class standing at the time of admission.
2. They are encouraged to limit their course load for the first semester.
3. They are given special diagnostic tests to determine the nature and extent of their academic handicap.
4. They are required to take Guid. Stud. 101, Effective Study and Adjustment to College, during the first semester they attend the University.
5. Based on admission or diagnostic test results, they may be required to take specified strengthening classes in English, mathematics, social studies, biological sciences, physical sciences, or other areas of academic weakness.
6. Under the jurisdiction of the Department of Guided Studies, they will be directed by specially-selected advisers. These advisers have accepted the responsibility of meeting their advisees at frequent, regular intervals in an effort to help them work out the specific adjustment problems which arise during the first semester at the University.
7. Students who achieve a BYU cumulative grade-point average equal to or above the minimum standard for their class (1.75 for freshmen and 2.00 for all others), and who satisfactorily complete Guid. Stud. 101 and all other required strengthening classes may transfer to any college or department in the University. They must, however, meet the standards of admission set by the college and department of their choice.

Listed below are the classes currently offered by other departments of the University as remedial courses. Enrollment in these courses is not restricted to students on academic warning or probation. For detailed course listings see the appropriate departments.

Engl. 15. Remedial English for Juniors

Engl. 101. English as a Second Language

Engl. 105. Composition and Reading

G.C. 100. Fundamentals of Mathematics

Speech and Dram. Arts 60. Remedial Speech

Math. 90. Algebra

Math. 97. Mathematical Review

For additional strengthening classes in various academic fields, see also the course offerings in the General Curriculum Department.

Reading Laboratory. The Reading Laboratory is administered by the Department of Guided Studies. It was created to help students who need to build speed and comprehension in reading. Students are encouraged to avail themselves of the opportunity to learn how to read better and faster. The service is available without charge to all full-time students.

As indicated in the course description below, Guid. Stud. 21 is a noncredit course, and primary motivation for participation is self-improvement. Guid. Stud. 121 is a college-level class and carries one unit of credit.

On a fee basis, the Division of Continuing Education of the University offers a developmental reading course similar to Guid. Stud. 121. Students may avail themselves of this course by contacting the Division of Continuing Education.

Courses

15. Remedial Spelling. (0:2:0) F.S.

Improvement of ability to spell through the study of such techniques as spelling rules, prefixes, suffixes, roots, and use of the dictionary.

21. College Preparatory Reading. (0:1:1) F.S.Su.

Herlin

Assists the high school graduate in strengthening fundamental skills of reading comprehension, vocabulary, and speed. A diagnostic study is made of individual reading deficiencies.

101. Effective Study and Adjustment to College. (1:3:0) F.S.Su. Home Study also.

Mayfield, Reid

Course covers such areas as budgeting time, note-taking, reading, listening, use of library, how to take examinations, motivation, and concentration. Time is also spent in studying the application of psychological principles to typical problems of college students.

121. College Development Reading. (1:1:1) F.S.Su. Prerequisite: reading above twentieth percentile on freshman reading norms, or completion of Guid. Stud. 21.

Herlin, Mayfield

Designed for the student who desires to increase his reading efficiency. Attention is given to speed and comprehension, and to vocabulary as it relates to rapid reading.



Students using individual controlled readers

Health Sciences



Professors: Hartvigsen, Shaw, Watters (chairman, 213 RB).

Associate Professor: Robison.

Assistant Professors: Burgener, Hafen, Heiner, Hirschi, Overstreet, Peterson, Rhodes, Rollins, Thygerson, Tuckett.

Instructors: James, Moncur, Salazar.

Health Education Teaching Major. Students majoring in health education will take the following required courses: Health 121, 325, 381, 451, 460, 521, 552; also the following courses or equivalent from other departments: FSN 115; Zool. 261 and 262; Psych. 321; and at least 7 hours from the following courses: Health 501, 503, 530, 561, 660; Micro. 311; Sociol. 403, 580; Anthropol. 105; P.E. 344; and Psych. 240. The student's program is to be established through the consultation of an adviser from the Department of Health Sciences.

Health Education; Community Health Emphasis. Those students who wish to pursue a public health profession or a higher degree in public health education at an accredited public health school should follow the suggested curriculum for the community health emphasis. The student's program is to be established through the consultation of an adviser from the Department of Health Sciences.

Health Education Dominant. Students may select a composite major with health education as a dominant field by completing the following required courses: Health 121, 325, 381, 460, 521; Zool. 261, 262; FSN 115; and Psych. 321; and at least 7 hours selected from the following: Health 451, 501, 530, 552, 561; Psych. 240; and Sociol. 403. The student's program is to be established through the consultation of an adviser from the Department of Health Sciences.

Health Education Related. Students may select a composite major with health as a related field by completing the following required courses: Health 121, 381, 460, 521; and 7 hours selected from the following courses: Health 325, 451, 501, 552, 561; Psych. 321; FSN 115. The student's program is to be established through the consultation of an adviser from the Department of Health Sciences.

Driver and Safety Education Minor. Students may minor in driver and safety education and qualify for state certification by completing the following required courses: Health 121, 325, 443, 444, 445; and 4 hours selected from the following courses: Health 446, 460, 502, 530; and Psych. 321. The driver education program is established by the State Certification Office and cannot be altered or have other courses substituted for the above courses unless it agrees with a reciprocal list from other state universities. The student's program is to be established through the consultation of an adviser from the Department of Health Sciences.

Health Education Minor. Students may minor in health education by taking the following required courses: Health 121, 381*, 460, 521; and 11 hours selected from the following courses: Health 325, 451, 501, 530, 552, 561; FSN 115; Micro. 311; and Psych. 321, 240. The student's program is to be established through the consultation of an adviser from the Department of Health Sciences.

*If required in major program, the health education minor will be 17 semester hours.

Suggested Course Outline—Teaching Major

First Year

	F	S
Engl. 111, 112	3	3
Relig.	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Health 130	2	
Hist. 170		3
Chem. 101		4
Micro. 121	3	
Sociol. 111	3	
Psych. 111		3
Health 121	2	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Total Hours	16	16

Second Year

	F	S
Zool. 105	3	
Relig.	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Zool. 261		4
Zool. 262		2
Engl. 250	3	
Hum. 101	3	
Geol. 101	2	
FSN 115		2
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Minor	4	4
Health electives		2
Total Hours	18	17

Third Year

	F	S
Health 381	3	
Psych. 321		3
Health 325		2
Relig.	2	2
Ed. 301	2	
Health 377	3	
Health 521		2
Zool. 276	3	
Health 552		2
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Minor	4	4
Elective		2
Total Hours	17$\frac{1}{2}$	17$\frac{1}{2}$

Fourth Year

	F	S
Ed. 310	2	
Ed. 415	2	
Ed. 479	8	
Ed. 403		4
Health 451		2
Minor		4
Health 460	2	
Health electives		3
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Ed. 406	2	
Electives		3
Total Hours	16$\frac{1}{2}$	16$\frac{1}{2}$

Suggested Course Outline—Community Health Emphasis

First Year

	F	S
Engl. 111, 112	3	3
Relig. 121, 122	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Health 130		2
Hist. 170		3
Chem. 101 or 105		4
Zool. 105	3	
Sociol. 111	3	
Psych. 111	3	
Dev. and forum assy. ..	1	1
Total Hours	15$\frac{1}{2}$	15$\frac{1}{2}$

Second Year

	F	S
Hum.		3
Micro. 121	3	
Relig.	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Zool. 230		4
Speech and Dram.		
Arts 102	2	
Phys. sci.	2	

Zool. 261, 262	6	
FSN 115		2
Health 121		2
Commun. 101	2	
Dev. and forum assy. ..	1	1
Commun. 211		3
Total Hours	18$\frac{1}{2}$	17$\frac{1}{2}$

Third Year

	F	S
Health 325		2
Micro. 361	2	
Micro. 371		2
Relig.	2	2
Zool. 317	3	
Health 460		2
Dev. and forum assy. ..	1	1
Sociol. 357	3	
Sociol. 449		2
Health 561		3
Micro. 381		2
Health 451	2	
Elective	2	
Total Hours	15	16

Fourth Year		F	S			
Micro. 411	2			Dev. and forum assy.	1	1
Sociol. 360	3			Electives	5	4
Ed. 552	2			Sociol. 389		3
Electives		3		Bot. 376		3
Sociol. 580	3			Health 521	2	
Health 551	2			Total Hours	18	16

Courses

10. **Beginning Drivers' Laboratory.** (0:0:2) S.Su. Thygerson
Noncredit course. Driver education for beginning drivers. Used as a laboratory in conjunction with Health 445. No driving experience required. Fee \$10.00.
- ☐ **Food Science and Nutrition 115. Essentials of Nutrition.** (2:2:0)
121. **First Aid and Safety Instruction.** (2:2:0) F.S.Su. (m) Peterson
Principles and practices in emergency care and first-aid procedures for injuries. American Red Cross certificate given upon successful completion of course.
130. **Personal Health.** (2:2:0) F.S.Su. Home Study also.
Intended to develop adequate knowledge of health and illness and desirable health attitudes and practices. Required of all freshman students. May be taken either semester during freshman year.
131. **Personal Health.** (1:1:0) F.S.
Intended to develop adequate knowledge of health and illness and desirable health attitudes and practices. University health requirement for students in the Honors Program only.
- ☐ **Communications 211. News Writing.** (3:2:3) Prerequisite: Engl. 112 or equivalent, or consent of instructor.
- ☐ **Psychology 240. Personal and Social Adjustment.** (2:2:0)
- ☐ **Zoology 261. Elementary Human Physiology.** (4:3:2)
- ☐ **Zoology 262. Anatomy Laboratory.** (2:1:4)
- ☐ **Zoology 276. Heredity** (3:3:0) Prerequisite: see Zool. 105.
- ☐ **Microbiology 311. Sanitation and Public Health.** (2:2:0)
- ☐ **Zoology 317. General Parasitology.** (4:3:3) Prerequisite: Bio. Agr. Ed. 201.
- ☐ **Psychology 321. Psychology of Adolescence.** (3:3:0)
325. **Safety Education.** (2:2:0) F.S.Su. Home Study also. (m) Thygerson, Watters
Provides educational programs and practices to bring about a reduction of accidents. Recommended for elementary and secondary teachers, driver educators, principals, and safety education supervisors.
- ☐ **Microbiology 331. Microbiology.** (5:3:6) Prerequisite: any organic chemistry course.
- ☐ **Zoology 331. Introductory Entomology.** (4:2:4) Prerequisite: see Zool. 105.
- ☐ **Sociology 357. (Sociol.-Psych.) Group Relations and Leadership.** (3:3:0)
- ☐ **Sociology 360. Introduction to the Field of Social Work.** (3:3:0) Prerequisites: Sociol. 111, 112.
361. **School Health for Elementary Teachers.** (2:2:0) F.S.Su. Home Study also.
Prerequisite: Health 130.
Fundamental principles of the school health program and their application in elementary teaching. For those preparing to teach in the elementary school.

- 362. School Health for Secondary Teachers.** (2:2:0) F.S.Su. Home Study also. Prerequisite: Health 130.

Fundamental principles of the school health program and their application in secondary teaching. For those preparing to teach in secondary school.

- ☐ **Botany 376. Genetics.** (3:3:0) Prerequisite: Bot. 101 or Zool. 105.

- 377. Secondary Teaching Curriculum and Methods.** (3:3:1) F. Prerequisites: Health 381; Ed. 301. Shaw

Identification of teacher and pupil activities required for conceptual learning methods. Students should arrange their class schedules to permit approximately 14 hours for directed observation and participation (8:00 a.m. to 3:15 p.m.).

- 381. Program Planning in Secondary Health Education.** (3:3:0) F.S. (m)

Overstreet, Watters
Emphasis on the role of the health specialist in integrated and concentrated programs; a study of functions, program planning, and resource materials related to school health education.

- ☐ **Sociology 389. Social Aspects of Mental Health.** (3:3:0)

- ☐ **Psychology 440. Abnormal Psychology.** (3:3:2)

- 443. Methods and Materials for Teaching Driver Education.** (2:2:0) F. Recommended: Health 325, 444. Thygerson

Methods and materials for instruction in driver and traffic safety education, with emphasis on selection and utilization of materials and methods.

- 444. Organization and Administration of Driver and Traffic Safety Education.** (2:2:0) F.Su. (m) Recommended: Health 325, 443. Thygerson

Organization, administration, and supervision of high school driver education programs.

- 445. Driver and Traffic Safety Education.** (4:2:4) S.Su. (m) Recommended: Health 325, 443, 444. Thygerson

Knowledge, attitudes, and skills related to driving. Behind-the-wheel instruction, fitness of drivers, cost and care of car, traffic codes and nature's laws, highways and freeways, and adverse conditions of driving.

- 446. Driver Simulators and Driving Ranges.** (2:2:1) S.Su. Recommended: Health 325, 443, 444, 445.

Methodology of simulation instruction in driver and traffic safety education, with emphasis on operation and maintenance of traffic simulators.

- 451. School Health and Community Relations.** (2:2:0) S. Recommended: Health 361 or 362. Burgener

To increase understanding of the health relationships between the school and the community, including principles of community cooperation, disease prevention and control, and general methods of health promotion.

- 460. Alcohol and Narcotic Education.** (2:2:0) F.S. Hafen, Rhodes

The nature and effects of alcohol and narcotics on the human organism. The alcohol and narcotics problem will be considered from physiological, psychological, and sociological viewpoints as well as the educational and legal aspects. The development of a correlated attack on this national problem will be emphasized.

- ☐ **Zoology 465. Mammalian Physiology.** (4:4:3)

- 479. Secondary Student Teaching.** (8:8:0) F.S.

Watters

- 501A,B. Health Education Workshop.** (1-2:Arr.:Arr.) F.S.Su.

Watters

Intended primarily for extension credit and/or Summer School. Involves a presentation of health education problems followed by discussions. Conducted on a workshop basis.

- ☐ **Microbiology 501. Pathogenic Microbiology.** (5:3:6) Prerequisite: Micro. 331 or consent of instructor.

- 502. Driver and Safety Education Workshop.** (1-2:30:18) Prerequisite: certified driver education instructor or consent of department chairman.
Presentation of current state and national driver and safety education problems, research, and methods of instruction.
- 503. Health Problems Workshop.** (1-2:Arr.:Arr.) F.Su.
Current problems in school and community health.
- 521. Evaluation and Selection of Health and Safety Material.** (2:2:0) F.S. (m) Shaw
Prerequisite: Health 381.
Pamphlets, brochures, films, textbooks, and other school health resource materials are evaluated and selected for present and future use.
- 530. First Aid Instructorship.** (2:2:1) F. (m) Rollins
To qualify instructors in Red Cross first aid, so they may conduct classes to qualify individuals for standard and advanced Red Cross cards.
- ☐ **Zoology 535. Medical Entomology.** (3:3:2) Prerequisite Zool. 331.
- ☐ **Microbiology 531. Virology.** (4:2:6) Prerequisite: Micro. 501 or 511.
- ☐ **Education 550. Introduction to Guidance Services.** (2:2:0)
- 551. Field Work in Community Health.** (2:Arr.:Arr.) S.Su. Recommended: Health 451.
Designed to broaden understanding of community health agencies, their roles, programs, and relationships. This is accomplished by field introductions to the various official and voluntary health agencies, followed by the selection of agencies in which to do field work during the semester.
- 552. School Health, Organization and Services.** (2:2:0) S. (m) Shaw
Considers desirable school health services, functions, and relationships to public education and educational law. Coordinates school health services with community programs.
- ☐ **Education 552. Statistical Methods.** (2:2:0)
- ☐ **Education 560. Educational Tests and Measurements.** (3:3:0)
- 561. Health of the Body Systems.** (3:3:0) S. (m)
Advanced course in personal health, dealing with the major factors in health and disease as they involve the several body systems.
- ☐ **Sociology 580. Medical Sociology.** (3:3:0)
- ☐ **Physical Education 635. Measurement and Evaluation in Physical Education and Health Education.** (3:3:0)
- ☐ **Education 646. Counseling Theory and Practice.** (3:3:0)
- 660. Stimulants and Depressants.** (2:2:0) Prerequisite: Health 561 or equivalent.
The physiology and biological chemistry of stimulants and depressants.
- ☐ **Physical Education 662. Administration and Public Relations.** (3:3:0)
- ☐ **Zoology 662. Advanced Physiology.** (2:1:2)
- 691. Graduate Seminar.** (0:Arr.:Arr.) Watters
A seminar for graduate students in health and safety education. Reviews course work, testing procedures, professional agencies, and current trends in health. All graduate students in health and safety education must register each semester.
- 692. Research Methods in Health Science.** (3:3:0)
- 693. Research in Health Science.** (2:1:2) F.S.
Independent and/or directed research in problems associated with the health sciences.
- 694. Seminar in Readings.** (2:2:0) F.S.Su.
- 696. Seminar in Problems.** (1:1:0) F.S.Su.
- 698. Field Project.** (1-4:Arr.:Arr.) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.)
- ☐ **Education 709. Philosophy of Program Planning.** (2:2:0)

History

Professors: Addy, Campbell, Hafen, Hyer, P. Jensen (chairman, 250 M), Swensen.

Associate Professors: Alexander, Allen, Bushman, Cardon, Larson, Marlow, Schmutz, Warner (assistant chairman, 210-B M).

Assistant Professors: Britsch, Hill, Tobler, Wood.

Instructors: C. R. Jensen, Montgomery, Seibt, Thorp.



Requirements for a Major

A history major requires the completion of 31 hours of work in this field. Courses required are Hist. 100, 110, 111, 170 and 270, normally taken in the freshman and sophomore years (students who have already taken 120 and/or 121 should consult with the department chairman); Hist. 488 and 490 (listed as Hist. 388 and 400 in previous catalogs), junior and senior years. Majors who seek certification in secondary education are also required to take Hist. 366. The remaining elective hours should be selected in consultation with department adviser. Not more than 13 hours of lower-division work in history may be applied toward the major. No "D" credit will be accepted in upper-division history classes.

History majors are required to take the foreign language option rather than the mathematics, statistics, logic, or science option for general education. Any exception must be approved by the department chairman.

A minor field is not required for the history major. In its place the student shall select 14 hours from any courses in the Colleges of Social Sciences or Humanities except history. If other options are desired, a request must be made in writing to the department chairman.

The requirements for a teaching major and minor in history and for the composite major in social sciences which includes history are found in the Education section.

Courses

100. The Study of History. (1:1:0) F.S. (m)

Introduction to the nature and functions of history, with emphasis on developing the skills and resources needed in historical study. For history majors only.

110. World Civilization I. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Beginning of major world civilizations and their development to approximately 1500 A.D., with emphasis on Europe.

111. World Civilization II. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Development of major world civilizations since 1500 A.D., with emphasis on Europe.

120. The United States to 1865. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Discovery and colonization, the American Revolution, establishment of the Constitution, foreign affairs, westward expansion, sectionalism, and the Civil War.

121. The United States Since 1865. (3:3:0) F.S.Su. Home Study also. (G-SS m)

Civil War and Reconstruction industrialization and urbanization. American imperialism, progressivism, world wars, New Deal, and current problems.

- 170. The American Heritage.** (3:3:0) F.S.Su. Home Study also. (G-AH)
Growth of the United States under the Constitution, with emphasis on political ideas and institutions and the adaptation of the governmental system to America's role as an industrial and world power.
- 270. Main Issues in American History.** (3:3:0) F.S.Su. Prerequisite: Hist. 170 or equivalent.
Discussion based on directed readings of the historical developments of the main issues confronting the United States today. Limited to history majors and minors.
- 300. Ancient Near-East History.** (2:2:0) F. (G-SS m) Meservy
Ancient Egypt, Babylonia, Assyria, Persia, and Palestine.
- 302. Near-Eastern History.** (3:3:0) F. (G-SS m) Montgomery
Survey of the development of Near-Eastern or Islamic civilization, with emphasis on the period of the Caliphate and the Ottoman Empire.
- 304. Greek History and Civilization.** (3:3:0) F. (G-SS m) Swensen
Survey of Hellenic and Hellenistic developments from early beginnings to the Roman conquest.
- 307. Roman History and Civilization.** (3:3:0) S. (G-SS m) Anderson, Swensen
Survey of the rise of the Roman Republic, the transition to empire, and the decline and fall of the Western Roman Empire.
- 310. The Early Middle Ages.** (3:3:0) F. (G-SS m) Schmutz
Surveys the development of medieval history and civilization from the fall of Rome to the Romanesque revival of the tenth and eleventh centuries. (Both 310 and 311 cannot be taken for general education credit.)
- 311. The Late Middle Ages.** (3:3:0) S. (G-SS m) Schmutz
Surveys the development of medieval history and civilization from the eleventh century to the close of the Middle Ages. (Both 310 and 311 cannot be taken for general education credit.)
- 312. The Renaissance: Age of Transition.** (3:3:0) F. (G-SS m) D. Jensen
The literary and artistic reawakening of Italy, the rise of commercial capitalism, beginning of the European states system, and the overseas expansion of Europe.
- 313. The Reformation: Age of Turmoil.** (3:3:0) S. (G-SS m) D. Jensen
The political, economic, and cultural effects of the great sixteenth-century religious upheaval, with its ensuing ideological struggles to mid-seventeenth century.
- 320. The Age of Enlightenment.** (2:2:0) F. (G-SS m) (Offered 1970-71 and alternate years) Addy
Survey of developments in Europe from approximately 1688 to the beginning of the French Revolution, including developments of political thought, science, and philosophy in the Enlightenment.
- 322. Nineteenth-Century Europe.** (2:2:0) F. (G-SS m) (Offered 1971-72 and alternate years) Cardon
Political, economic, social, and intellectual history of Europe from 1815-1914.
- 323. Europe in the Twentieth Century.** (3:3:0) S. Home Study also. (G-SS m) Cardon
Emphasis on European international affairs on the political and economic history of the major European countries (including Russia) from World War I to the present.
- 326. Western Civilization I.** (1-3:Arr.:Arr.) F.S.Su. (m)
Limited to participants in the BYU Travel Study program.

- 327. Western Civilization II.** (1-3:Arr.:Arr.) F.S.Su. (m)
Limited to participants in the BYU Travel Study program.
- 329. The Austrian Empire and Eastern Europe.** (3:3:0) S. (G-SS m) (Offered 1970-71 and alternate years) Tobler
A survey of the historical development and external relations of the countries of East Central Europe (Austria, Hungary, Czechoslovakia, Poland) since 1600.
- 330. Tsarist Russia.** (3:3:0) F. (G-SS m) Tobler
Survey of Russian history from early beginnings to the Russian Revolution.
- 331. The USSR and Eastern Europe.** (3:3:0) S. Home Study also. (G-SS m) Mabey
Survey of modern Russia, with special emphasis on the rise of communism and the development of the USSR.
- 332. France.** (3:3:0) S. Home Study also. (G-SS m) Cardon
Focuses on the important French contributions to modern thought, culture, and institutions during the old regime and especially since the French Revolution.
- 333. Modern Germany.** (3:3:0) F. Home Study also. (m) Tobler
The political, military, economic, and cultural development of Germany during the nineteenth and twentieth centuries, with emphasis on the problem of German relationship to Western society.
- 334. Spain.** (3:3:0) F. (G-SS m) (Offered 1971-72 and alternate years) Addy
Political, social, and economic factors in Spanish history. Emphasis on the period since 1492.
- 335. England.** (3:3:0) F.S.Su. Home Study also. (G-SS m) Thorp
General English history from Roman era to the present. Development of English legal and political institutions, the Empire-Commonwealth, industrial revolution, recent problems, and trends.
- 340. Premodern Asia.** (3:3:0) F. (G-SS m) Britsch
Beginning of the traditional civilizations of China, India, and Japan, and their development until the coming of the West.
- 341. Modern Asia.** (3:3:0) S. (G-SS m) Britsch
Impact of the West on Asian societies and their response. Main emphasis on the change of tradition, imperialism, nationalism, and communism in China, Japan, and India.
- 342. Korea.** (3:3:0) F. (G-SS m) Palmer
Survey of the history of Korea including its political, religious, and cultural development from antiquity to the present.
- 343. Formative Period of Chinese Civilization.** (3:3:0) F. (G-SS m) Hyer
Development of China to recent times, with emphasis on social and cultural factors.
- 344. Modern China.** (3:3:0) S. Home Study also. (G-SS m) Hyer
Emphasis on the development of China in the twentieth century, including the fall of the Manchu Dynasty and the rise of the Chinese Communists.
- 345. Formative Period of Japanese Civilization.** (3:3:0) F. (G-SS m) Britsch
Development of Japan to 1868, with emphasis on social, religious, and cultural aspects.
- 346. Modern Japan.** (3:3:0) S. (G-SS m) Hyer
The development of Japan since 1868, with emphasis on the impact of the West upon political, social, economic, and cultural developments.
- 347. India.** (3:3:0) S. (G-SS m) Britsch
Survey of the history of India, including the effects of Hinduism and Islam on the political, economic, and cultural development.

349. **Central Asia.** (3:3:0) S. (G-SS m) Montgomery
Survey of central Asia, including Chinese and Russian border areas. Emphasis on the nomadic empires, especially the Turkish and Mongol empires.
351. **History of Latin America I.** (3:3:0) F. Home Study also. (G-SS m) Addy
Colonial period, geography, pre-Columbian civilization, conquest, and institutional development from 1492 to 1800.
352. **History of Latin America II.** (3:3:0) S. Home Study also. (G-SS m) Addy
National period. The wars of independence, evolution of modern republics, inter-American relations, and institutional development from 1800 to the present.
360. **The American Frontier.** (2:2:0) F.S.Su. Home Study also. (G-SS m) Allen, Warner
Highlights and significance of the westward movement in American history (not for history majors).
362. **American Westward Movement to 1825.** (2:2:0) F. (G-SS m) Warner
Emphasis on the early colonization and westward movement east of the Mississippi.
363. **American Westward Movement After 1825.** (2:2:0) S. (G-SS m) Allen, Hafen
Emphasis on the fur trade and colonization in the trans-Mississippi West.
364. **The Indian in American History.** (2:2:0) F.S.Su. (G-SS m) Warner
Survey of major developments in the history of leading Indian tribes, including relations with the United States government.
365. **California.** (2:2:0) S. Home Study also. (G-SS m) Warner
Survey of the Spanish, Mexican, and American periods in California history, with emphasis on developments since the gold rush.
366. **Utah.** (2:2:0) F.S.Su. Home Study also. (G-SS m) Alexander, Campbell, Larson, Wood
Emphasis on the Utah territorial period. Not open to freshmen or sophomores.
370. **Colonial America.** (3:3:0) F. (G-SS m) Backman, C. R. Jensen
The founding, growth, and development of the American colonies to 1763.
372. **Founding of the American Republic.** (3:3:0) S. (G-SS m) Backman, C. R. Jensen
Political, social, and economic factors that led to the American Revolution and the establishment of the Republic, first under the Articles of Confederation, then under the Constitution.
375. **The American Republic, 1800-1850.** (3:3:0) S. (G-SS m) Campbell, Hill
Political, social, economic, and diplomatic development and westward expansion during the Jeffersonian and Jacksonian Eras.
377. **Civil War and Reconstruction.** (3:3:0) F. (G-SS m) C. R. Jensen
The Civil War as the testing of the American political system and as a problem in historical causation.
378. **The Emergence of Modern America, 1877-1920.** (3:3:0) F. (G-SS m) Alexander, Marlow
The transition of the United States from a rural and agrarian to an urban and industrial society, and the rise of the United States to world power.
379. **Contemporary United States History.** (3:3:0) S. (G-SS m) Marlow
An examination of the major domestic and foreign problems of the United States since 1920.

381. **U.S. Intellectual and Social History to 1865.** (3:3:0) F. (G-SS m) Hill
Life and thought in the United States to the Civil War.
382. **U.S. Intellectual and Social History Since 1865.** (3:3:0) S. (G-SS m)
Hill, Marlow
Life and thought in the United States from the Civil War to the present.
384. **U.S. Diplomatic History.** (3:3:0) F. (G-SS m) Melville
385. **American Constitutional History.** (3:3:0) S. (G-SS m) Melville
386. **History of the South.** (3:3:0) F. (G-SS m) Wood
The political, economic, and cultural history of the Southern States from colonial times to the present day.
387. **The Negro in American History.** (2:2:0) S. (G-SS m) Allen, Till
A general survey of Negro history in America, beginning with the African heritage and continuing to the present.
410. **Medieval Institutions.** (2:2:0) S. (G-SS m) Schmutz
Examines the development and structure of important medieval institutions, including the papacy, feudal, and royal administrations, and communal and representative bodies.
433. **The Weimar Republic and Nazi Germany.** (2:2:0) S. (G-SS m) (Offered 1970-71 and alternate years) Tobler
An analysis of Germany's first attempt at democracy during the 1920's and its totalitarian successor, Hitler's Third Reich.
435. **Constitutional Foundations of English History.** (3:3:0) F. (G-SS m) Thorp
Medieval constitutional developments and analysis within their political, social, and economic framework. Emphasis is on the shaping of English governmental and legal institutions.
436. **Tudor and Stuart England.** (3:3:0) S. (G-SS m) Thorp
An examination of the major political, social, economic, and cultural developments during the sixteenth and seventeenth centuries in England.
440. **Communist China.** (3:3:0) S. (G-SS m) Hyer
Chinese Communist development from the 1920's to the present, with attention to contemporary domestic affairs and foreign relations.
- ☐ **Geography 451. Historical Geography of North America.** (3:3:0)
453. **Mexico and the Carribean.** (3:3:0) F. (Offered 1970-71 and alternate years) (G-SS m) Addy, Warner
Social, economic, and political developments in Mexico and in the Latin-American states of the Caribbean Sea area.
454. **Argentina, Brazil, and Chile.** (3:3:0) S. (Offered 1971-72 and alternate years) (G-SS m) Addy
Social, economic, and political development of these principal Latin-American states since 1820.
- ☐ **Political Science 457. Government and History of Canada.** (3:3:0)
- ☐ **Economics 471. European Economic History.** (3:3:0)
- ☐ **Economics 474. American Economic Development.** (3:3:0)
481. **History of Science I.** (3:3:0) F. (G-SS m) Nielson
The historical development of scientific thought and achievement, and its effect upon social and cultural life from Greek times to the Renaissance.

482. **History of Science II.** (3:3:0) S. (G-SS m) Nielson
The impact of scientific thought and achievement upon the development of modern society since the intellectual revolution of the seventeenth century.
488. **Historiography.** (3:3:0) F.S.Su. C. R. Jensen, Purdy, Seibt, Swensen
Fundamental problems and types of historical analysis and interpretation, philosophies of history, and work of outstanding historians.
490. **Historical Research and Writing.** (3:3:0) F.S.Su.
Sources, materials, and methods of historical research and writing, including critical analysis of research project. Required of all history majors in the senior year.
497. **Honors Readings.** (1-2:0:Arr.) F.S.Su.
498. **Directed Readings.** (1-2:0:Arr.) F.S.Su.
606. **Greek Thought.** (2:2:0) S. (Offered 1971-72 and alternate years) Swensen
Study of Greek intellectual and philosophical thought, and its relationship to Greek institutions.
607. **Greek and Roman Historians.** (2:2:0) F. (Offered 1971-72 and alternate years) Swensen
A critical study and reading of the works of these ancient historians, an evaluation of their historical methodology and interpretation, and their relations to their historical background.
608. **Roman Thought.** (2:2:0) S. (Offered 1970-71 and alternate years) Swensen
A study of Roman intellectual, philosophical, and scientific achievements and their relation to Roman institutions.
610. **Early Medieval Times.** (2:2:0) F. Schmutz
Study of problems and interpretations in the history of the early Middle Ages, from the fall of Rome to the mideleventh century.
611. **Later Medieval Times.** (2:2:0) S. Schmutz
Study of problems and interpretations in the history of the late Middle Ages from the mideleventh century to the Renaissance.
612. **Medieval Thought and Culture.** (3:3:0) S. (Offered 1970-71 and alternate years) Swensen
Study of the basic medieval achievements in philosophy, science, theology, literature, and education.
618. **Problems in Early Modern Europe.** (3:3:0) F. (Offered 1970-71 and alternate years) D. Jensen
Reading, analysis, and interpretation of selected historical problems of the sixteenth, seventeenth, and eighteenth centuries.
621. **Problems in Modern Europe.** (3:3:0) S. (Offered 1970-71 and alternate years) Cardon
Reading, analysis, and interpretation of selected historical problems of the nineteenth and twentieth centuries.
625. **European Diplomatic History Since 1815.** (2:2:0) F. Cardon
Interprets "diplomacy" broadly. Emphasis on the relationship between European diplomatic history and the domestic history of the major world powers, including the U.S. and Russia.
628. **European Thought and Culture to 1800.** (3:3:0) F. (Offered 1971-72 and alternate years) D. Jensen
Intellectual and cultural movements of the sixteenth-eighteenth centuries. Emphasis is on humanism. Reformation ideologies, the rise of scientific thought, Rationalism and Enlightenment.

629. **European Thought and Culture Since 1800.** (3:3:0) S. (Offered 1971-72 and alternate years) Tobler
The most influential intellectual and cultural movements of the nineteenth and twentieth centuries, their forms of expression, and their impact on the contemporary world.
633. **Intellectual History of Germany.** (2:2:0) F. Prerequisite: reading knowledge of German. Tobler
A study and analysis of the ideas which have had the most powerful influence upon the historical development of Germany since the Reformation.
635. **Problems in Tudor and Stuart History.** (3:3:0) S. Thorp
Examination of major sources and historical problems of sixteenth- and seventeenth-century England.
640. **The Far East.** (2:2:0) S. Hyer
Reading, analysis, and interpretation of selected problems of Asian development, with emphasis on China, Japan, and India.
648. **Culture of Asia.** (2:2:0) F. Hyer
Reading in depth and discussion of problems in Asian culture.
650. **Latin America.** (2:2:0) S. (Offered 1970-71 and alternate years) Addy
An advanced study of the generalized historical development of Latin America—colonial and national periods considered.
656. **Southwestern United States.** (2:2:0) S. Hafen, Warner
Selected problems in the area of Spanish colonization and United States fur trappers.
660. **Problems in Western History.** (3:3:0) F.Su. (Offered 1970-71 and alternate years) Alexander, Allen, Warner
An analysis of the major interpretations and themes in the history of the American West.
666. **Problems in Utah History.** (2:2:0) F. Campbell, Wood
Reading in depth in the documents and discussion of interpretations of important events in Utah history.
667. **Northwestern United States.** (2:2:0) S. Allen, Hafen
History of the Oregon Territory as it developed into the states of Washington, Oregon, and Idaho.
670. **Problems in Colonial America.** (3:3:0) F. (Offered 1971-72 and alternate years) Backman
672. **Problems in the Founding of the American Republic.** (3:3:0) S. (Offered 1971-72 and alternate years) Backman
Reading in depth and discussion of major problems in American history between 1763 and 1800.
675. **Problems in the Early American Republic (1800-1848).** (3:3:0) F. Hill
677. **Problems in Civil War and Reconstruction.** (3:3:0) S. (Offered 1971-72 and alternate years) C. R. Jensen
678. **Problems in the Emergence of Modern America (1880-1920).** (3:3:0) F. (Offered 1971-72 and alternate years) Alexander
679. **Problems in Contemporary American History.** (3:3:0) S. Marlow
681. **Sources and Problems in American Intellectual History.** (3:3:0) S. Prerequisites: Hist. 381, 382. Hill, Marlow
Intensive reading of source materials in intellectual and social history.
686. **Seminar in Ancient History.** (3:3:0) S. Swensen

Home Economics Education

Associate Professor: Brasher (chairman, 2234-B SFLC).

Assistant Professors: Ellsworth, Poulson.

Instructors: Bird, Hansen, Stone, Young.



The Department of Home Economics Education offers a composite major in home economics leading toward a B.S. degree and vocational certification from the State Department of Public Instruction to teach home economics in the junior and senior high schools.

The major purpose of home economics education is to prepare students to adapt knowledge in all areas of home economics for teaching. Study in this department also has value to the student by preparing her with a general background of knowledge that can be applied to other professional aspects of home economics. The graduate gains personally as she develops toward greater personal fulfillment and enrichment in family living.

The curriculum includes a broad program in all areas of home economics preceded by a background in the sciences. Due to the nature of the course work required and the time element involved, it is imperative that students seek advisement from the Home Economics Education Department at the earliest possible date.

For admission to the education program, students are required to (1) maintain a 2.25 grade-point average; (2) pass a grammar test administered by the Teacher Certification Office unless a score of 20 or higher has been achieved in the English portion of the ACT. Clearance must be obtained the semester prior to registering for Ed. 301B.

The Home Economics Education Department offers training leading to a Master of Science degree.

Suggested Schedule for Home Economics Education Majors

Freshman Year

Freshman Year		Chem. 151	5
Relig.	4	P.E.	1
Engl.	6	Home Ec. Ed. 101**	1
Forum and Dev. Assy.		CDFR 210	3
101, 102	2	Micro. 121	3
P.E.	1	Clo. and Text. 165	4
Clo. and Text. 110	2	FSN 255	5
Health 130	2	Environ. Des. 240	3
Zool. 105	3	Clo. and Text. 260	3
Chem. 101	4	Elective	2
Art 110	2		
Hum.	2		35
Speech and Dram. Arts		Junior Year	
102 or 121	2-3	Relig.	4
Elective	3	Ed. 310**	2
	<hr/>	Clo. and Text. elective	
	33-34		

Sophomore Year

Dev. Assy. 201, 202	1	CDFR 322**	3
Relig.	4	FEHM 335	3

FEHM 351	2	Home Ec. Ed. 377**	3
CDFR 360	3	CDFR 361	3
FSN 264, 265	5	FEHM† 370	3
FSN 340	2	Ed. 479†	8
Nurs. 425†	2	Ed. 402†	2
Electives	4	Ed. 415†	2
		Hist. 170**	3
	4-35	Phys. sci.	3
Senior Year (Professional year)*		Health 362†	2
Relig.**	2	Home Ec. Ed. 489†	2
Home Ec. Ed. 375**	2		35

*The student must work out her schedule around student teaching. See adviser for details.

†Block plan only.

**Available on block plan.

Courses

101. **Concepts of Home Economics Education.** (1:1:0) F.S.
Basic concepts and philosophy underlying home economics education.
375. **Curriculum Development in Home Economics Education.** (2:2:0) F.S. Prerequisite: Ed. 301B.
377. **Secondary Teaching Procedures.** (3:3:Arr.) F.S. Prerequisite: Home Ec. Ed. 375.
See Ed. 377.
479. **Secondary Student Teaching.** (8:1:Arr.) F.S.
Supervised teaching carried on in an approved home economics education department of a public school. See Ed. 479.
489. **Extended Programs in Vocational Home Economics Education.** (2:1:2) F.S. Prerequisite: Home Ec. Ed. 377.
Examination of home economics education programs for adults and out-of-school youth.
- 521R. **Workshop in Home Economics Education.** (2:Arr.:Arr. ea.) Prerequisite: consent of instructor.
Intensive study of application of principles and theory in home economics education.
530. **Home Economics Education for Adults.** (2:2:0) Prerequisites: Home Ec. Ed. 489; consent of instructor.
The principles, practices, programs, materials, and resources for teaching home economics education to adults.
532. **Evaluation in the Teaching of Home Economics Education.** (2:2:0) Prerequisite: Ed. 479 or consent of instructor.
Analysis of evaluation techniques and construction of evaluation devices unique to home economics.
630. **Methods and Curriculum in Home Economics Education.** (3:3:0)
Intensive study of methods of teaching and curriculum development for home economics education programs in the secondary schools.
650. **Organization and Administration of Home Economics Education Programs.** (3:3:Arr.)
689. **Social Foundation of Home Economics Education.** (3:3:Arr.)
Examination of social, economic, and educational forces which affect individuals and families.
- 693R. **Independent Readings and Conference.** (1-3:Arr.:Arr. ea.)
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)

Humanities and Comparative Literature

Professors: R. Britsch (chairman, A-113A JKB), Spears.

Assistant Professors: T. Britsch (assistant chairman), Davis.

Instructor: Tate.



In this department are brought together two areas of study—humanities and comparative literature—that are related in two principal ways: first, both are concerned with the interrelationships of two or more disciplines in literature and the other arts; and second, though both provide basic courses in their own areas, they also make use of the offerings of other departments in the construction of programs for their major students. The department offers the B.A. degree in humanities and the B.A. and M.A. degrees in comparative literature.

HUMANITIES

For capable students in the humanities whose educational objectives are not met by a conventional major in one department and a minor in another, the college offers an interdepartmental major and minor including 50 semester hours in art, history, literature (including foreign literature), music, and philosophy. Students are advised to support these subjects with additional courses in philosophy, the social sciences, and other related areas. Students will also complete a foreign language program sufficient for the B.A. degree. Of the 50 semester hours required in art, history, literature, and music, at least 25 must be upper-division work.

The educational and vocational goals of most students are best served by a conventional major and minor. Selected students, however, will profit from broader training which includes intensive work in several of the humanities subjects. Such a program has broad cultural value. Through it students may acquaint themselves with the relationships among the various humanities subjects and obtain a valuable liberal education consisting of substantial, well-balanced work in the broad field of the humanities.

Students may enter the humanities program only with permission of the chairman and should register each semester thereafter under his direction.

1. Required Courses for the Major in Humanities:	Hours
a. Humanities—9 hours—Hum. 201, 202, and 490	9
b. Art—at least 7 semester hours selected from the following:	
Art 101. Introduction to Art	2
Art 108. General Art	2
Art 110. Design in Everyday Life	2
Art 121. Basic Drawing	3
Art 122. Basic Figure Drawing	3
Art 301. Art History and Appreciation	3
Art 302. Oriental Art	2
Art 308. American Art	2
Art 309. History of Architecture	2
Art 403. Ancient and Primitive Art	2
Art 405. Medieval Art	2
Art 406. Renaissance Art	2
Art 407. Nineteenth-Century European Arts	2
Art 408. Contemporary Art	2

- Art 414. Baroque Art 2
- Art 501. Philosophy of the Fine Arts 2
- Note:** Humanities majors are also encouraged to take one or two of the following courses: Art 227, 233, 239, 250, 256, 263.
- c. English—at least 14 semester hours selected from the following courses in English, American, and comparative literature, or 8 hours from these courses and 12 hours from 400-level literature courses in a single foreign language:
- Engl. 250. Introduction to Literature 3
- Engl. 251. Fundamentals of Literature 3
- Engl. 260. Masterpieces of American Literature 3
- Engl. 270. Masterpieces of English Literature 3
- Engl. 275. English Literature I: From Beowulf Through Shakespeare 5
- Engl. 282 or 382 or 582. Shakespeare, or Extended Readings in Shakespeare 2 or 3
- Engl. 332. The English Novel from Defoe Through Dickens 3
- Engl. 333. The Modern English Novel 3
- Engl. 335. The American Novel to Dreiser 2
- Engl. 336. The Modern American Novel 2
- Engl. 341. English Drama to 1642 2
- Engl. 342. Restoration and Eighteenth-Century Drama 2
- Engl. 343. Modern English and American Drama 2
- Engl. 360. American Literature from the Beginnings to the Present 4
- Engl. 361. Early American Literature 4
- Engl. 362. Later Nineteenth-Century American Literature 4
- Engl. 370. English Literature II. From Donne Through Eliot 5
- Engl. 371. English Literature to 1500: The Medieval Period 3
- Engl. 372. English Literature from 1500 to 1660: The Renaissance Period 4
- Engl. 373. English Literature from 1660 to 1780: The Classical Period 4
- Engl. 374. English Literature from 1780 to 1832: The Romantic Period 4
- Engl. 375. English Literature from 1832 to 1900: The Victorian Period 4
- Engl. 380. Twentieth-Century Literature 5
- Engl. 381. Chaucer 3
- Engl. 450. The Criticism and Appreciation of Literature 3
- Engl. 500R. Eminent American Writers 1 ea.
- Engl. 510R. Eminent English Writers 1 ea.
- Comp. Lit. 310. Introduction to Comparative Literature 3
- Comp. Lit. 338. European Novel 3
- Comp. Lit. 355, 356. World Classics I, II 3 ea.
- Comp. Lit. 471. Literature of the Middle Ages 3
- Comp. Lit. 472. Literature of the Renaissance 3
- Comp. Lit. 473. Literature of the Enlightenment 3
- Comp. Lit. 474. The Romantic Movement 3
- Comp. Lit. 475. Realism and the Modern Age 3
- d. History—at least 6 semester hours selected from the following:
- Hist. 110, 111. World Civilization I, II 3 ea.
- Hist. 302. Near-Eastern History 3
- Hist. 304. Greek History and Civilization 3
- Hist. 307. Roman History and Civilization 3
- Hist. 310. The Early Middle Ages 3
- Hist. 311. The Late Middle Ages 3
- Hist. 312. The Renaissance: Age of Transition 3
- Hist. 313. The Reformation: Age of Turmoil 3
- Hist. 340. Premodern Asia 3
- Hist. 341. Modern Asia 3
- Hist. 381. U.S. Intellectual and Social History to 1865 3
- Hist. 382. U.S. Intellectual and Social History Since 1865 3

- e. Languages—at least 6 semester hours selected from the following or 12 semester hours selected from the following (in one language) and 8 semester hours of English:

French 440. Historical Survey of French Literature	4
French 441, 442. Survey of French Literature and Culture	3 ea.
French 445. Introduction to French Civilization	3
German 440. Survey of German Literature and Culture	4
German 441. German Literature from the Beginning to 1700	3
German 442. German Literature in the Eighteenth Century	3
German 443. German Literature in the Nineteenth Century	3
German 444. German Literature in the Twentieth Century	3
German 445. Cultural History of Germany	3
Greek 431, 432. Masterpieces of Greek Literature	3 ea.
Greek 441, 442. Survey of Greek Literature and Culture	3 ea.
Italian 441, 442. Survey of Italian Literature and Culture	3 ea.
Latin 431, 432. Masterpieces of Latin Literature	3 ea.
Latin 441, 442. Survey of Latin Literature and Culture	3 ea.
Portuguese 431, 432. Survey of Brazilian Literature I, II	3 ea.
Russian 441, 442. Survey of Russian Literature	3 ea.
Russian 445. Cultural History of Russia	3
Spanish 441. Survey of Spanish Literature	4
Spanish 445. The Culture of the Hispanic World	3
Spanish 451. Survey of Hispanic-American Literature	4

- f. Music—at least 5 semester hours selected from the following:

Mus. 101. Introduction to Music	3
Mus. 103. Survey of Music Literature	2
Mus. 484, 485. History of Music	3 ea.

Note: Humanities majors also are encouraged to take one or two of the many participation courses offered by the Music Department.

- g. Phil. 110. Introduction to Philosophy

3

2. Recommended Courses in General Education for the Major in Humanities:

- a. Strongly recommended courses:

Classical Civilization 341. Greek and Roman Mythology	2
Classical Civilization 441. Classical Literary Traditions I: Greek Literature from Homer to the Alexandrian Period	3
Classical Civilization 442. Classical Literary Traditions II. Roman Literature of the Republic and Early Roman Empire	3
Classical Civilization 443. Classical Literary Traditions III: Latin and Greek Literature in the Middle Ages	3
Classical Civilization 461. Greek Drama in English Translation	2
Relig. 453A. Mormonism and the World's Religions	2
Relig. 555, 556. Comparative World Religions	2 ea.
Phil. 211. Theory of Knowledge	3
Phil. 214. Aesthetics	2
Phil. 321. History of Ancient and Medieval Philosophy	4
Phil. 322. History of Modern Philosophy	4
Phil. 323. Contemporary Anglo-American Philosophy	3
Phil. 324. Contemporary Continental Philosophy	3
Phil. 413. Topics in Ethics and Value Theory	2

- b. Suggested courses:

Anthrop. 101. Introduction to Anthropology (G-SS)	3
Engl. 350. The Bible as Literature (G-HA)	2
Geog. 120. Geography and World Affairs (G-SS)	3
Geol. 101. Introduction to Geology (G-PS)	2
Geol. 103. Life of the Past (G-PS)	3
LIS 413. Selection and Acquisition of Materials	3
LIS 423. Reference Theory and Service	3

Courses

101. An Introduction to the Humanities. (3:3:0) F.S.Su. (G-HA)

A course in applied aesthetics, concerned with the forms and relationships of the major arts—literature, painting, sculpture, architecture, and music.

201. The Arts in Western Culture: Age of Greece to Early Renaissance. (3:3:0) F.S. (G-HA)

The development of the major arts—literature, painting, sculpture, architecture, and music—in the Greek and Roman periods, the Middle Ages, and the early Renaissance.

202. The Arts in Western Culture: Late Renaissance to the Modern Age. (3:3:0) F.S. (G-HA)

The development of the major arts—literature, painting, sculpture, architecture, and music—from the late Renaissance to the present.

490. Senior Seminar. (3:3:0) S. Prerequisite: senior status with major in humanities or one of the departments in the College of Humanities or the College of Fine Arts and Communications.

Extensive reading, analysis, and presentation of papers concerning problems in the humanities—period classification, relationships between the arts, and current critical practice.

498. Directed Readings. (1-2:0:Arr.)

COMPARATIVE LITERATURE

The program in comparative literature is based on a belief that literature, like the other arts, transcends national and linguistic boundaries and that many students will wish to extend their knowledge and enjoyment of poetry, fiction, and similar writings beyond the limits of English and American literature. The student of literature with an aptitude for languages can probably master his subject most effectively if he gains a firm knowledge of at least one national literature and at the same time makes a careful study of literary masterpieces of other languages in the original tongues and in translation. In the comparative literature area the student has opportunity (a) to develop his ability to read and evaluate literature, (b) to gain a broader awareness of literary history than he could through the study of a single literature, (c) to become aware of the interrelatedness of the great traditions of literature, and (d) to develop techniques for the study of problems that involve more than one literature.

In addition to completing a number of courses offered by the area of comparative literature, the major will round out his program with courses in literature offered by the Departments of English and the various languages. These courses will be selected under the supervision of his adviser.

Requirements for the B.A. Degree in Comparative Literature

Students majoring in comparative literature must complete at least the 36 hours outlined in the following program:

	Hours
a. Comparative Literature, four courses, including Comp. Lit. 310 (Introduction to Comparative Literature), at least one of the Comp. Lit. 471-475 series, and Comp Lit. 490 (Seminar in Comparative Literature)	12
b. Classical Civilization, two courses from Classical Civilization 441, 442, 443, 461 (see Languages: Classical and Asian)	6
c. Literature in a foreign language (original), on the 400 level (for example, French 440, 441, 442, etc.)	9
d. Literature in a second language (English or foreign); English courses are to be selected, with the consent of the adviser, from upper-division courses in literature and criticism; foreign literature courses are to be on the 400 level.	9

In addition, the student is urged to develop competence in a second foreign language, preferably a classical one if his first foreign language is modern. He is also encouraged to take at least one course in the Hum. 201, 202 series.

Requirements for the M.A. Degree in Comparative Literature

The candidate for the master's degree in comparative literature must complete the following program:

1. **Course Requirements:** A minimum of 31 approved hours, including 20 hours of graduate courses. The 31 hours include

	Hours
a. Comp. Lit. 610, Methods of Study in Comparative Literature	3
b. At least one course from the Comp. Lit. 471-475 series, in addition to any taken on the undergraduate level	3
c. Courses in literature offered by the English and language departments, with major emphasis on one ancient or modern literature (for example, Latin or German or English), and minor emphasis on another. In the major area (9 hours or more), at least two of the courses must be on the graduate level; in the minor area (5 hours or more), at least one course must be on the graduate level. Work must be done in the original languages. Major emphasis should also be placed on one era or period (for example, Classic or Romantic) and minor emphasis on another	14
d. A bibliography and research course offered in the candidate's major or minor area of emphasis (for example, French 601 or Engl. 615)	2
e. One graduate seminar in comparative literature	3
f. Thesis	6-9
2. **Language Requirements.** A reading knowledge of at least two foreign languages. It is recommended that one of the two be Greek or Latin. The candidate will demonstrate competence in at least one of these two languages by meeting the course requirements outlined above. He will show competence in the other, if necessary, by passing an examination in the language prior to the completion of his master's program.

Courses

310. **Introduction to Comparative Literature.** (3:3:0) F. (G-HA m) Prerequisites: Engl. 251 or equivalent; reading knowledge of at least one non-English language. T. Britsch
Principles of literary comparison and analysis; study of selected critical and literary texts from classical antiquity to present, read in English and one foreign language.
338. **European Novel.** (3:3:0) F. (G-HA m) Blanch, M. Clark
The works of the principal European novelists, including Cervantes, Flaubert, Zola, Turgenev, Dostoevsky, Tolstoy, Mann, Kafka, and others, in English translations.
355. **World Classics I.** (3:3:0) F.S.Su. (G-HA m) R. Britsch, Craig, Tate
Greek and Roman epic and drama and European classics of the Middle Ages and Renaissance in translation, with emphasis on Homer, Aeschylus, Sophocles, Euripides, Virgil, and Dante.
356. **World Classics II.** (3:3:0) F.S.Su. (G-HA m) Spears, Thomson
European masterpieces of neoclassicism, romanticism, realism, naturalism, and symbolism in translation.
- **English 391. Studies in Folklore.** (3:3:0) F.Su. Wilson
471. **Literature of the Middle Ages.** (3:3:0) S. (Offered 1972 and alternate years) (m) McKendrick, Spears
A comparative study of English and continental European literature of the Middle Ages.

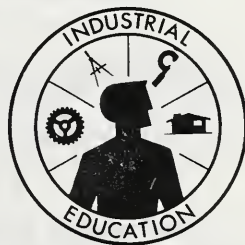
- 472. Literature of the Renaissance.** (3:3:0) S. (Offered 1971 and alternate years)
(m) Evans, Spears
A comparative study of English and continental European literature of the Renaissance.
- 473. Literature of the Enlightenment.** (3:3:0) S. (Offered 1972 and alternate years) (m) Evans, Spears
A comparative study of English, American, and continental European literature of the Age of Enlightenment.
- 474. The Romantic Movement.** (3:3:0) F. (Offered 1970 and alternate years) (m) Farnsworth, Spears
A comparative study of Romanticism in the literature of England, America, and continental Europe.
- 475. Realism and the Modern Age.** (3:3:0) F. (Offered 1971 and alternate years) (m) Evans, Spears
A comparative study of English, American, and continental European literature of the later nineteenth and twentieth centuries.
- 490R. Seminar in Comparative Literature.** (3:3:0 ea.) S. (m) Prerequisite: Comp. Lit. 310.
Reading, analysis, and presentation of papers concerning selected topics in comparative literature. Basic topics will vary from semester to semester.
- 495. Individual Readings in Comparative Literature.** (1-2:Arr.:0)
For comparative literature majors only, with consent of the department chairman.
- 610. Methods of Study in Comparative Literature.** (3:3:0) F. Prerequisite: consent of instructor.
Approaches to the study of relationships among literatures and to analysis of types, genres, styles, etc.; definition of movements and periods.
- 690R. Seminar in Comparative Literature.** (3:3:0 ea.) S. Prerequisite: Comp. Lit. 610 or consent of instructor.
Selected problems in comparative literature. Course content will vary from semester to semester.
- 695R. Individual Readings.** (1-2:Arr.:Arr. ea.)
For graduate majors in comparative literature only, with consent of department chairman.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

Industrial Education

Professors: Hinckley (chairman, 250H SIE),
Jeppsen, McArthur.

Associate Professors: Gamett, Grover, Nish

Assistant Professors: Jenkins, McKinnon



The Industrial Education Department provides four major areas of instruction:

1. **Industrial Arts Teacher Education**, offering instruction leading to the baccalaureate degree to prepare industrial arts teachers for junior and senior high schools. A special elementary program is also available.
2. **Technical Teacher Education**, offering instruction leading to the baccalaureate degree to prepare teachers for vocational and technical schools. Unit shop industrial arts certificate may also be obtained by completing the remainder of the core list.
3. **Graduate Teacher Education**, leading to the master's degree in industrial education to prepare master teachers, supervisors, and coordinators of industrial and technical education.

Note: In cooperation with the College of Education, the Doctor of Education degree is available, with minor emphasis in industrial education.

4. **The General Service Courses**, open to all students. These courses offer basic training in fundamental operations and processes and are designed to give exploration, guidance, and consumer knowledge in crafts and in modern industrial fields.

REQUIREMENTS FOR THE SECONDARY TEACHING CREDENTIAL

Students planning to become teachers are encouraged to seek early advisement from the department concerning the teacher education program. An attempt to complete one phase of the program ahead of schedule would complicate the smooth functioning of the program. Students beginning their professional preparation in the senior year may find it necessary to devote additional time to complete the program.

In order to graduate from the Industrial Education Department, a student must satisfy all course work for Utah Certification requirements.

General Education Requirements

See "General Education Requirements" in the Student Academic Services section of this catalog. These requirements should be distributed throughout the four-year program.

Educational Requirements for Certification

See the requirements listed by the College of Education. Refer to Education section for industrial education certification standards.

Note: Indus. Ed. 377 and 479 must be taken in the Industrial Education Department, not in the Department of Education.

INDUSTRIAL ARTS AND TECHNICAL TEACHER EDUCATION**(Composite Teaching Major)**

Baccalaureate certification programs are offered in industrial arts and technical teacher education. These include general shop, with a junior high school or senior high school emphasis, the specialized high school unit shop emphasis, and the technical teacher program.

Industrial Arts—General Shop Program

This program is designed to prepare teachers for elementary, junior high school, and high school industrial arts positions. Two options are available to give the optimum training for the grade level to be taught. The student should follow either junior high school or high school emphasis as listed below, depending on his particular interest.

Core List:

Drafting 111; Indus. Ed. 100, 101, 129, 250, 260, 289, 405, 460, 470, 535**, 540**; Art 110*; Math. 121*; physics or chemistry, 3 hours*.

*Satisfy general education requirements.

**May be reserved for graduate credit, if taken last semester before graduation.

Technical Elective for Depth Sequences: 24 semester hours.

Junior High School and Senior High School General Shop Emphasis:

The twenty-four (24) hours of technical electives will include Art 212 (2) and the balance (22 hours) will be distributed equally among a minimum of four (4) of the technical areas (the minimum in any area to be 5 hours or 2 classes), thereby providing the balance of breadth and depth desirable for general shop teachers.

For this program, technical courses will be selected from the following list:

Crafts:

Indus. Ed. 360 and the balance from Indus. Ed. 160, 493A,B,C,D; Art 250, 259, 263, 359.

Drafting/Design:

Drafting 355 and the balance from Drafting 210, 211, 410.

Electricity/Electronics:

Engr. Tech. 102 and the balance from Indus. Tech. 242, 341; Engr. Tech. 221, 228, 234. Delete Indus. Ed. 101 from the core when electricity/electronics sequence is selected and replace with 3 additional hours in electricity/electronics.

Graphic Arts:

Indus. Tech. 351 and the balance from Indus. Tech. 451, 452, 453.

Metals:

Indus. Ed. 130, 139, 326; Indus. Tech. 325 and the balance from Indus. Ed. 329; Indus. Tech. 120, 125, 132, 335, 337. Delete Indus. Ed. 129 from the core when the metals sequence is selected.

Power:

Indus. Ed. 389; and the balance from Indus. Ed. 387, 388, 389, 489.

Woods:

Indus. Ed. 105, 210, and the balance from Indus. Ed. 200, 300; Indus. Tech. 211, 301, 337.

High School Specialized Emphasis:**Technical Electives for Depth Sequences—24 semester hours minimum.**

The twenty-four (24) hours of technical electives will be distributed equally between two (2) of the technical areas (the minimum in any area to be 12 hours), thereby providing the balance of breadth and depth desirable for high school industrial arts teachers.

If the chosen technical areas both require Art 212, credit Art 212 to one area and select an elective course in the other technical area to replace Art 212.

Crafts:

Indus. Ed. 360; Art 312 and the balance from Indus. Ed. 160, 493A,B,C,D; Art 259, 263, 359, 366.

Drafting/Design:

Drafting 211, 355; Art 212 and the balance from Drafting 210, 256, 356, 410, 411.

Electricity/Electronics:

Engr. Tech. 102, and the balance from Indus. Tech. 242, 341; Engr. Tech. 221, 231, 232, 234, 235. Delete Indus. Ed. 101 from core when electricity/electronics sequence is selected. Replace with 3 additional hours in electricity/electronics.

Graphic Arts:

Indus. Tech. 351, and the balance from Indus. Tech. 451, 452, 453; Indus. Ed. 494.

Metals:

Indus. Ed. 130, 139, 326; Indus. Tech. 325 and the balance from Indus. Ed. 329; Indus. Tech. 120, 125, 132, 332, 335, 337. Delete Indus. Ed. 129 from the core when metals sequence is selected. Select 3 additional hours in metals to replace Indus. Ed. 129.

Power/Auto:

Select from Indus. Ed. 189, 387, 388, 389, 489, 495.

Woods:

Indus. Ed. 105, 210; Art 212; and the balance from Indus. Ed. 200, 300; Indus. Tech. 211, 301, 337.

Technical Teacher Unit Shop Program

This curriculum is designed to prepare teachers for technical programs for post-high school institutions. Admittance to the program requires approval by the department, together with a GPA of 2.25 or above. The program provides considerable depth in one technical area with extensive supporting work in related areas of science and mathematics. Completion of this program, together with a necessary industrial experience required for certification, will qualify a person as a technical teacher or as a trade and industrial teacher. General requirements are as follows:

	Minimum Credit Hours
A. A prescribed two-year technical program approved by the department.	64
B. Selected and approved advanced technology courses in the specialty area.	12
C. Additional general education and group requirements specified by the University for the baccalaureate degree.	26
D. Professional education courses.	22
E. Professional industrial education courses.	6

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GRADUATE WORK IN INDUSTRIAL EDUCATION

The Industrial Education Department offers graduate programs leading to the Master of Science and Master of Industrial Education degrees. Both programs require a minimum of 33 semester hours.

The Master of Science degree requires completion of a thesis and is recommended for anyone contemplating future graduate work leading to the specialist or Doctor of Education degree.

The Master of Industrial Education degree requires completion of a non-credit master's paper and prior teaching experience. It is designed to further develop the educational and technical background of the professional teacher.

Master of Science

Majors: Industrial arts education, technical education.

Suggested Minors: Education and psychology, guidance and counseling, educational supervision and administration, junior college curriculum, educational media, special education, or community school.

Major Requirements: Ed. 660; Stat. 552; Indus. Ed. 699 and a minimum of 14 semester hours selected from Indus. Ed. 505, 535, 540, 593A,B,C, 610, 615, 620, 625, 630, 635, 640, 645, 650, 690, 691, 694A,B,C; Ed. 550, 560.

Minor Requirements: 9-10 semester hours selected in consultation with the minor adviser. See above list of suggested minors.

Research and Thesis: Ed. 660; Stat. 552; Indus. Ed. 694, 699.

Entrance Requirements: In addition to the requirements for the master's degree listed in the Graduate School Catalog, the Industrial Education Department requires the following:

- A. Satisfactory completion of 30 semester hours in industrial and technical education undergraduate courses prior to or concurrent with the graduate work or a minimum of 6 years of bona fide trade experience.
- B. Although not required, a minimum of one year of teaching experience in industrial education will give much more meaning to the graduate work.

Master of Industrial Education

Majors: Industrial Arts Education or Technical Education.

Suggested Minors: Art, education and psychology, guidance and counseling, junior college curriculum, educational supervision and administration, educational media, special education, or community school.

Major Requirements:

Indus. Ed. 610. History and Trends in Industrial and Technical Education or	
Indus. Ed. 615. Principles and Objectives of Industrial and Technical Education	2
Indus. Ed. 695. Problems in Industrial and Technical Education	2
Indus. Ed. 690. Seminar	1
Indus. Ed. 694. Reading and Conference	2
Ed. 560. Educational Tests and Measurements	3
Indus. Ed. 645. Visual and Graphic Materials in Industrial Education	2
And a minimum of 12 semester hours selected from the following:	
Indus. Ed. 505, 535, 540, 593A,B,C, 610, 615, 620, 625, 630, 635, 640, 650, 691	12

Minimum Major Total Hours 24 hrs.

Minor Requirements: 9-10 semester hours selected in consultation with the minor adviser. See above list of suggested minors.

Credit Requirements: A minimum of 33 semester hours.

Research and Master's Paper: A master's paper is required. This is a non-credit paper giving a detailed report of work completed in Indus. Ed. 695 concerning a special technical problem in the area of industrial education. No credit will be given for the course until the paper has been accepted by the department. The problem topic will be determined in consultation with the major adviser.

Oral Examination: A one-hour oral examination on major and minor course work with a committee consisting of the major adviser, an additional representative of the major department, and the minor adviser.

Entrance Requirements:

A. A valid industrial education teaching certificate.

B. A minimum of one year of teaching experience in industrial education.

Courses

100. Woodwork Fundamentals. (3:2:4) F.S.

Care and use of hand and machine woodworking tools applied to fundamental principles of sawing, joining, fitting, and fastening.

101. Basic Electricity. (3:2:3) F.S.

Theory of electricity, including direct and alternating current circuits and magnetism, basic theory of electron tubes and transistors. For industrial education majors.

105. Wood Finishing. (2:1:3) F.S.

Preparation of surfaces for the application of finishes, stains, paints, varnishes, lacquers, polishes, etc. Use of brush and air gun.

109. Industrial Arts Design. (1:1:1) F.S.

Fundamental elements and processes of design in industrial arts.

129. Metalwork Fundamentals. (3:2:4) F.S.Su.

An introduction to the field of metal-working processes for industrial education majors. Includes basic metal cutting and welding.

130. Introduction to Manufacturing Processes. (3:2:4) F.S.Su.

An introduction to the processes of shaping, forming, and stamping of metals. For industrial education majors.

139. Sheet Metal and Ornamental Iron. (2:1:3) F.S.

Processes in sheet metal, ornamental iron work, and pattern layout.

160. Recreational Handicrafts. (2:1:3) F.S. Evening registration only.

Students may work in a selected area according to their interests—woodwork, metalwork, plastics, leather, etc. Open to all students interested in leisure-time activities.

189. Gas and Diesel Engines. (3:1:5) F.S.

Care and maintenance of gas and diesel engines. Includes overhaul and rebuilding procedures.

200. Woodwork Projects. (3:1:5) F.S.Su.

Advanced woodwork operations in the construction of furniture. Drawings, specifications, and cost estimates of all projects are submitted by the student.

205. Introductory Production Methods. (3:2:4)

A practical shop experience in the use of production machinery, tools, and materials: wood, metal, and plastics. For environmental design majors.

210. **Carpentry Framing.** (3:1:5) F.S. Prerequisite: Indus. Ed. 100.
Practical problems in forming, framing, sheathing, and insulation.
250. **Graphic Arts.** (3:2:3) F.S.Su. (cm)
Beginning course in the principles and practices of graphic arts. Includes a study of how each reproduction process fits into the field of visual communications.
260. **Crafts.** (3:2:4) F.S.Su.
Fundamental hand and machine operation used in working plastics, wood, and leather.
289. **Power Sources of Industry.** (3:2:4) F.S.Su.
Development, theory, and application of energy conversion machines.
300. **Contemporary Processes and Wood Materials.** (3:2:4) F. Prerequisite: Indus. Ed. 100.
Research and application of currently developing industrial wood processes, including composites, chemicals, and manipulation of wood materials.
319. **Upholstery.** (2:1:3) F.S.
Experience with typical upholstery systems.
326. **Welding Processes Laboratory.** (1:0:3) F.S.
Skill development in common welding processes for industrial education majors.
329. **Advanced Metal Machining.** (3:2:4) S. Prerequisite: Indus. Ed. 130.
Development of operational skills and precision with machining equipment. Introduction to NC and EDM equipment.
360. **Metal Crafts and Lapidary.** (3:2:4) F.S.Su.
Processes in art metal and lapidary.
377. **Secondary Teaching Procedures.** (3:3:3) F.S.
Methods, techniques, and special classroom procedures applied to individual and group instruction in industrial and technical education.
387. **Steering and Braking Mechanisms.** (3:2:4)
Principles and application of friction and inertia, as it relates to moving mechanisms.
388. **Power Transmission.** (3:2:4) F.
Principles, design, and experimentation with mechanical, fluid, and friction transmission systems utilized on highway vehicles.
389. **Fuel and Electrical Systems.** (3:2:4) S.
Principles, design, and experimentation with various types of fuel and electrical systems used on reciprocating engines.
405. **Shop Maintenance.** (2:1:3) F.S.
Care and maintenance of tools and machines.
460. **Industrial Plastics.** (3:2:4) F.S.Su.
Processes and materials used in laminating, molding, extruding, casting, and thermoforming.
470. **Shop Organization and Management.** (2:2:2) F.S. Prerequisite: completion of or concurrent registration in Indus. Ed. 377.
Organization and management of industrial education shops, including unit, general, and multiple activity types.
479. **Secondary Student Teaching in Industrial Education.** (8:1:40) F.S.
489. **Power Tune-Up** (2:1:4) S. Prerequisite: Indus. Ed. 389.
Theory and application of balancing the ignition and fuel systems in heat engines utilizing various load systems.

- 490. Special Problems in Metals.** (1-3:Arr.:Arr.) F.S.Su.
Individual study in special areas of interest related to machine shop practices or welding.
- 491. Special Problems in Wood.** (1-3:Arr.:Arr.) F.S.Su.
Individual study in special areas of interest related to furniture or building construction.
- 492. Special Problems in Electricity.** (1-3:Arr.:Arr.) F.S.Su.
Individual study in special areas of interest related to industrial or commercial applications of electricity and electronics.
- 493A,B,C,D. Special Problems in Crafts.** (1-3:Arr.:Arr. ea.) F.S.Su.
A—wood, B—lapidary, C—leather, D—metals. Limited to a maximum of three hours of credit for each letter.
- 494. Special Problems in Graphic Arts.** (1-3:Arr.:Arr.) F.S.Su.
Individual study in special areas of interest related to industrial applications of graphic art processes.
- 495. Special Problems in Power.** (1-3:Arr.:Arr.) F.S.Su.
Individual study in special areas of interest related to auto or power.
- 505. Industrial Arts for Elementary Teachers.** (2:2:0) F.Su.
Nature and needs of teachers instructing industrial arts in the elementary schools, with emphasis on content and procedures.
- 535. Industrial Education Safety and Liability.** (2:2:0) S.Su.
Principles of accident causes and prevention in industrial education laboratories. Teacher and student responsibility regarding liability. Present laws affecting school safety.
- 540. Industrial Occupational Information and Guidance.** (2:2:0) S.Su.
- 593A,B,C. Workshop in Industrial Education.** (1-3:Arr.:Arr. ea.) F.S.Su.
Instruction in current industrial and technological advances related to industrial education.
- 610. History and Trends in Industrial and Technical Education.** (2:2:0) F.Su.
Historical developments of industrial and technical education programs from their early beginnings to the present time.
- 615. Principles and Objectives of Industrial and Technical Education.** (2:2:0) F.Su.
General philosophy, principles, and objectives of industrial arts, vocational education, and technical education programs.
- 620. Analysis in Industrial and Technical Education.** (2:2:0) F.Su. Prerequisite: Indus. Ed. 615 or consent of instructor.
- 625. Course Construction in Industrial and Technical Education.** (2:2:0) S.Su. Prerequisite: Indus. Ed. 620 or consent of instructor.
Preparation and use of a course of study in industrial and technical fields based on an analysis of the occupation.
- 630. Problems of Adult Industrial Education.** (2:2:0) F.Su.
Development of the adult industrial education movement and the problems relative to teaching adults, with emphasis on continuing education.
- 635. Planning and Equipping Industrial and Technical Programs.** (2:2:0) S.Su. Prerequisite: Indus. Ed. 625.
A study of industrial and technical school laboratories designed to facilitate and supervise instruction in industrial arts, vocational education, and technical education.

- 640. Coordination and Supervision of Industrial and Technical Education.** (2:2:0) F.Su. Prerequisite: Indus. Ed. 625.

Methods of supervision and coordination of industrial arts, vocational education, and technical education programs, including laws, regulations, and policies affecting these programs.

- 645. Visual and Graphic Materials in Industrial Education.** (2:1:2) S.Su.

Basis for the selection, development, and use of visual and graphic materials and their contribution to facilitating instruction in industrial and technical education.

- 650. Design in Industrial Education.** (2:1:3) F.Su.

Design procedures and evaluation relative to aesthetics, material characteristics, and manufacturing processes; design implementation in the laboratory; applicable drafting techniques.

- 690, 691. Seminar.** (1:1:0 ea.) Su.

Review of latest developments and research findings in the field of industrial and technical education.

- 694A,B,C. Reading and Conference.** (1-3:1-3:0 ea.) F.S.Su.

Limited to a maximum of six credit hours.

- 695A,B,C. Problems in Industrial and Technical Education.** (1-3:1-3:3-9 ea.) F.S.Su.

Limited to a maximum of six credit hours.

- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.



Interior woodworking class

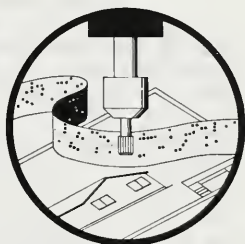
Industrial Technology

Professor: McArthur (chairman, 230 SIE).

Associate Professors: Allen, Mortensen.

Assistant Professors: Brown, Simmons, Smart, Tolman.

Instructors: Long, Raisor.



The Industrial Technology Department offers baccalaureate-degree programs in building construction, design and drafting, electronics, and manufacturing. Associate-degree technician programs are offered in drafting, graphic arts, light building construction, tool design, and welding. These curricula are designed to meet the needs of two distinct groups of students. (See the Technical Institute section of this catalog.)

1. Introductory courses for those students desiring a greater understanding of the industrial and technical activity in the world of today.
2. Technical courses for those students desiring to prepare for entrance into industrial and technical occupations in the world of work.

These programs are designed to develop successful and productive citizens with a constructive philosophy of life. To receive maximum benefit in the minimum time, students should contact the department chairman and be assigned an adviser who will help them work out a program of studies.

Following is a description of the baccalaureate-degree technology programs. The associate-degree technician programs are listed in the Technical Institute section of this catalog.

BUILDING CONSTRUCTION TECHNOLOGY

(Four-year baccalaureate degree)

The Building Construction Technology Program includes instruction in basic woodwork, drafting, cabinet work, house framing, carpentry finishing, plumbing, house wiring, and masonry; building materials and methods; estimating, accounting, and economics.

New construction materials and methods have radically changed building construction within the last few years. Men who know how to use effectively the new techniques, as well as the traditional methods, are much needed by the construction industry. This baccalaureate-degree technology program is planned to prepare men to fill that need. Typical positions of graduates of this program are field men for architects, building material dealers, contractors, and contractor field supervisors.

First Year		F	S			
Relig.				Engl. 111, 112	3	3
121, 122	2	2		Hist. 170	3	
Indus. Ed. 100, 105	3	2		Health 130		2
Indus. Ed. 139; Indus.				Gen. ed.		2
Tech. 325	2	2		P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Math. 121, 122	3	3		Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$

Second Year		F	S
Indus. Ed. 210; Indus. Tech. 211	3	2	
Minor	2		
Indus. Tech. 218		2	
Indus. Tech. 341		2	
Drafting 111, 256	3	3	
Math. 223	3		
Physics 105, 107; 106, 108	4	4	
Econ. 101		3	
Relig.	2	2	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	
Third Year		F	S
Engr. Tech. 205, 206	3	3	

C.E. 211, Drafting 210	3	3
Minor	2	4
Acctg. 201	3	
Gen. ed.	2	4
Relig.	2	2
Total Hours	15	16
Fourth Year		
	F	S
Indus. Tech. 410, 411	3	3
Indus. Tech. 301, 317	3	2
Bus. Mgt. 321; Drafting 355	3	3
Minor	3	3
Gen. ed.	2	3
Relig.	2	2
Total Hours	16	16

DESIGN AND DRAFTING TECHNOLOGY

(Four-year baccalaureate degree)

(Accredited by the Engineering Council for Professional Development)

This program prepares design draftsmen for employment in the aerospace and other technically-oriented industries. Graduates from this program, while not engineers, are advanced technicians and technologists well prepared to work with and assist the engineer by performing many important responsibilities which will increase his efficiency and productivity. Upon satisfactory completion of this program, graduates receive the baccalaureate degree in design and drafting technology with a depth in manufacturing technology.

First Year		F	S
Drafting 111, 211	3	3	
Math. 121, 122	3	3	
Engl. 111, 112	3	3	
Engr. Tech. 100; gen. ed.	1	3	
Health 130		2	
Hist. 170	3		
Relig. 121, 122	2	2	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	
Total Hours	16	17	

Second Year		F	S
Indus. Tech. 131; Drafting 210	3	3	
Indus. Tech. 132, 242	3	3	
Math. 223; Indus. Tech. 232	3	3	
Physics 105, 107; 106, 108	4	4	
Relig.	2	2	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	
Total Hours	16	16	

Third Year		F	S
Indus. Tech. 316	4		
Indus. Tech. 330	3		
Indus. Tech. 335			4
Indus. Tech. 336	3		
Indus. Tech. 430			3
Art 312; Engl. 316	2	2	
Comput. Sci. 230	3		
Gen. ed.			5
Relig.	2	2	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$	

Fourth Year		F	S
Tech. electives*	4	5	
Econ. 101; Indus. Tech. 431	3	3	
Indus. Tech. 434, 435	3	2	
Gen. ed.			6
Drafting 311	3		
Indus. Tech. 436	3		
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	

*Technical electives—Select 9 hours from the following:

Drafting 355, 410, 411; Indus. Tech. 325, 332, 338, 437, 440; Indus. Ed. 250, 460.

Prearchitecture Program

A three-year curriculum program administered by the Civil Engineering Science Department in the College of Physical and Engineering Sciences is available to prepare those interested in architecture for entrance at the fourth-year level into a typical six-year master's-degree program at any accredited school of architecture.

Consult Page 183 of this catalog and Wilford J. Tolman of the Industrial Technology Department for further details.

ELECTRONICS TECHNOLOGY

The four-year electronics technology program prepares students in the general field of advanced electronics. The first two years provide a basic background in electronics technology similar to the two-year electronics technician program in the Technical Institute. The third and fourth years provide advanced technology in digital electronics circuits, with special emphasis on the interface circuitry between a digital computer and devices being controlled by the computer. Basic training is also provided in numerical analysis and computer programming, with emphasis on real-time programming and computer control systems.

Graduates of this program are qualified to become responsible members of the technical team where digital equipment, computers, or other electronic equipment is developed, manufactured, maintained, and applied to the needs of industry. They are also prepared to work as real-time programmers in aerospace, petroleum, chemical, airline, and medical electronic industries. Students desiring electrical engineering should consult the Electrical Engineering Science Department as these technical courses will not suffice for engineering.

First Year			Third Year		
	F	S		F	S
Engr. Tech. 100	1		Indus. Tech. 342, 343	3	3
Engr. Tech. 102, 231.....	5	4	(Digital Electronics)		
Physics 105, 107		4	Indus. Tech. 340, 440	3	3
Health 130	2		(Numerical methods in		
Math. 121, 122	3	3	Technology)		
Relig. 121, 122	2	2	Math. 224		3
Engl. 111, 112	3	3	Comput. Sci. 331, 332	3	3
Dev. assy. $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	Engl. 316	2	
P.E. $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	Gen. ed.	4	4
			Relig.	2	2
Total Hours	17	17	P.E. $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Second Year			Fourth Year		
	F	S		F	S
Engr. tech. electives*	3	3	Indus. Tech. 441, 442	3	3
Engr. Tech. 232, 235	4	4	(Real-Time Computer		
Math. 223; Comput. Sci.			Systems)		
230	3	3	Comput. Sci. 431, 441	3	3
Engr. Tech. 237,			Gen. ed.	7	3
234	2	2	Electives, gen. ed.	2	5
Engr. Tech. 228; Hist.			Relig.	2	2
170	3	3			
Relig.	2				
Dev. assy. $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$			
Hum.		2			
Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	17	16

*This six-hour sequence can be one of the following: (a) Machines, Engr. Tech. 221, 222; (b) Radio-TV, Engr. Tech. 261, 262; Commun. 255 (instead of Engr. Tech. 237); (c) Audio, Engr. Tech. 271, 272; Physics 167 (instead of Engr. Tech. 228).

MANUFACTURING TECHNOLOGY

(Four-year baccalaureate degree)

(Accredited by the Engineering Council for Professional Development)

The Manufacturing Technology Program prepares students for technical and managerial positions in industry. It is designed to meet individual student needs by means of common courses, options, and both technical and general education electives. Graduates are commonly employed in the general field of manufacturing, technical management, and related technical fields. Employment prospects for the long-range future are especially promising.

Transfer students of demonstrated ability who desire this major should contact an adviser for evaluation of technical courses taken previously.

Continuing education beyond the bachelor's degree is offered through the Graduate Industrial Technology Program and the MBA Program.

First Year			Third Year		
	F	S		F	S
Indus. Tech. 131		3	Indus. Tech. 242	3	
Indus. Tech. 132	3		Indus. Tech. 331, 332	3	2
Drafting 111, 211	3	2	Indus. Tech. 338, 335	3	4
Math. 121, 122	3	3	Indus. Tech. 336, 333	3	2
Engl. 111, 112	3	3	Econ. 111	3	
Relig. 121, 122	2	2	Gen. ed.		7
Health 130	2		Relig.	2	2
Hist. 170		3	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$			
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$
Total Hours	17	17			
Second Year			Fourth Year		
	F	S		F	S
Indus. Tech. 225, 216	3	4	Indus. Tech. 430, 431	3	3
Indus. Tech. 232, 325	3	2	Indus. Tech. 432, 433	2	3
Math. 223	3		Indus. Tech. 436	3	
Physics 105, 107; 106, 108	4	4	Technical electives*	6	11
Comput. Sci. 230		3	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Gen. ed.	2	2	Gen. ed.	3	
Relig.	2	2			
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$			
Total Hours	18	18			

*Technical electives: Student (in consultation with adviser) may select a series of upper-division or graduate courses from such areas as advanced manufacturing, welding, electronics, computer science, technical education, or technical management.

Courses

120. **Acetylene Welding I.** (2:1:3) F.S. (mm, fm) Long
Principles and practices in the fundamentals of oxyacetylene welding and cutting of steel. A general course open to all college students.
121. **Acetylene Welding Laboratory.** (3:0:9) F. Prerequisite: concurrent registration in Indus. Tech. 120. Long
Laboratory experience in oxyacetylene fusion welding, heating, brazing, and cutting of light-gauge and plate steel.
125. **Electric Welding I.** (2:1:3) F.S. (mm, fm) Long
Principles and practices with electric welding equipment. Methods used in arc welding of steel in flat position. A general course open to all college students.

- 126. Electric Welding Laboratory.** (3:0:9) S. Prerequisite: concurrent registration in Indus. Tech. 125. Long
Laboratory experience in arc welding of steel plate, with emphasis on commonly-used joints.
- 131. Machine Tool Operation.** (3:2:3) F.S.Su. (mm)
Function, capabilities, and limitations of basic machine tools and accessories. Skill is not stressed.
- 132. Manufacturing Processes and Materials.** (3:2:3) F.S. Allen
Economic and technical studies of manufacturing processes and materials, including testing, heat-treatment, machining, forming, stamping, extruding, casting, high-energy beam machining, powder metallurgy, welding and cutting, bonding, and finishing.
- 211. Carpentry Finishing.** (2:1:3) S. (wm) McKinnon
Practical problems in interior and exterior trim.
- 218. Plumbing.** (2:1:3) S. (fm) (Offered 1971 and alternate years) McKinnon
Plumbing and plumbing layout.
- 221. Gas Welding.** (5:2:8) F. Prerequisite: Indus. Tech. 120. Long
Theory and application of gas welding and related processes. Includes cutting, metallizing, brazing, and surfacing.
- 225. Nondestructive Testing.** (3:2:2) F.S. Prerequisite: Math. 121. Long
Theory and application of radiographic, magnetic particles; liquid penetrant, ultrasonic, and eddy current testing to machined, cast, welded, and formed parts with qualitative analysis and control applications.
- 226. Electric Welding.** (5:2:8) S. Prerequisite: Indus. Tech. 125. Long
Theory and application of electric welding processes. Includes submerged arc, resistance, stud, and gas-shielded welding and arc cutting.
- 227. Inert-Gas Welding.** (3:1:5) S. Prerequisites: Indus. Tech. 121, 126. Long
Principles and practices of gas-shielded welding of ferrous and non-ferrous metals.
- 232. Materials Science.** (3:2:2) F.S. Prerequisite: Math. 121. Mortensen
Chemical, physical, thermal, electrical, optical, and magnetic properties of materials in terms of basic atomic structure and bonding.
- 242. Electric and Electronic Controls.** (3:2:2) F.S. Prerequisites: Math. 121; Physics 106 or Indus. Ed. 101.
Operation and application of electrical and electronic controls on industrial machinery.
- 301. Cabinet Making and Millwork.** (3:1:5) F. (wm) Prerequisite: Indus. Ed. 200. McKinnon
Design and construction of cabinets, and study of milling operations.
- 316. Applied Mechanics.** (4:3:2) F. Prerequisites: Math. 122; Physics 106.
Introduction to statics, strength of materials, and dynamics. Elementary principles of structures, stresses in bending and torsion, and basic concepts of kinematics and kinetics.
- 317. Concrete and Masonry.** (2:1:3) S. (fm) (Offered alternate even years) McKinnon, Nish
Fundamental study and experience in the preparation and placement of concrete. Practice in laying cinder block, concrete block, and general introduction to masonry.
- 325. Welding Processes.** (2:2:2) F.S. (mm) Long
A general course dealing with theory, application, and economics of various welding processes.
- 330. Mechanisms.** (3:3:0) Prerequisites: Indus. Tech. 316; Math. 223.
Graphical solution of problems involving displacement, velocity, and ac-

celeration in tool and machine mechanisms, including study of linkages, gear trains, cams, and power transmission devices.

331. **Foundry Processes.** (3:2:3) Prerequisites: Indus. Tech. 132, 335. Allen, Mortensen
Study of melting, pouring, solidification, casting problems, design considerations, and testing as they apply to latest foundry processes. Includes study of automated and computer-controlled foundries.
332. **Production Planning.** (2:2:0) F.S. Prerequisite: Indus. Tech. 132.
Planning and coordination of manufacturing facilities for economical production. Includes study of material utilization, batch sizes, motion and time studies, scheduling, and plant layout.
333. **Metrology.** (2:1:2) S.
Theory and application of industrial measurements.
335. **Introduction to Physical Metallurgy.** (4:3:3) F.S. Prerequisite: Indus. Tech. 132.
Properties, testing, heat treating, selection, and use of metals.
336. **Basic Fluid Power.** (3:2:4) F.S. Prerequisite: Math. 121. Long
A study of hydraulic and pneumatic systems as a means of transmitting and controlling power; component identification and operation, fluid power graphical symbols, circuits, and applications.
337. **Pattern Making.** (2:1:3) Prerequisite: Indus. Ed. 100. Hinckley
338. **Machine Tool Performance.** (3:2:2) F.S. Prerequisites: Indus. Tech. 132, 335; Physics 106.
Study of cutting tool geometry, tool materials, cutting forces, feed, speed, surface finish, horsepower requirements, cutting fluids, vibration, and machine tool evaluation.
340. **Electronic Circuit Simulation.** (3:2:2) F. Prerequisite: Math. 223.
Application of computers to the simulation of electronic and other physical devices, using the CSMP, ECAP, and other simulation languages.
341. **House Wiring.** (2:2:2) F.S. McArthur
Electrical circuits in homes and farm buildings.
- 342, 343. **Digital Electronics.** (3:2:3 ea.) F.S. Prerequisites: Engr. Tech. 231, 235; completion of or concurrent registration in Engr. Tech. 232 and 237. Smart
Semiconductor pulse and switching circuits, including integrated circuits for radar, computer, and digital applications; Boolean algebra; logic circuits; and applications in digital systems.
351. **Typographical Layout and Design.** (3:2:4) F.S. Prerequisite: Indus. Ed. 250. Jenkins
Principles of design applied to products of the printer. Arrangement and paste-up of art materials for reproduction. A study of ink, paper, and theory of color.
410. **Construction Materials and Methods.** (3:3:0) F. (Offered 1970 and alternate years) McKinnon
Theoretical aspects of buildings, locations, soil conditions, footings, materials, and equipment.
411. **Estimating.** (3:3:0) S. (Offered 1971 and alternate years)
Interpreting plans and specifications. Methods of estimating and figuring costs of materials and labor.
425. **Metallurgy of Welding.** (3:3:0) S. (m) Prerequisites: Indus. Tech. 232, 325, 335. Mortensen
Basic metallurgical principles which pertain to welding procedures, and the proper selection of fundamental information enabling prediction of weld behavior.

- 430. Automation in Manufacturing.** (3:2:2) F.S. Prerequisite: Comput. Sci. 230.
Physical, social, and economic aspects of fixed and flexible automation systems. Laboratory work in animal and computer-assisted numerical control programming.
- 431. Tool Design.** (3:2:3) F. Prerequisites: Indus. Tech. 131, 132.
Design of special tooling as applied to manufacturing processes.
- 432. Manufacturing Research Laboratory.** (2:0:6) S. Prerequisites: consent of instructor; senior standing in manufacturing technology.
Experimental methods and tools in manufacturing are presented and demonstrated. Students select and conduct research in one or more manufacturing areas.
- 433. Manufacturing Systems Analysis.** (3:3:0) F. Prerequisites: Indus. Tech. 132, 225, 242, 333, 335, 430.
Product design analysis, manufacturing process analysis and selection, machine tool cost and function analysis, manufacturing economics, value analysis, and postproduction analysis.
- 434. Elements of Machines I.** (3:2:3) S. Prerequisites: Indus. Tech. 316; Math. 223.
A basic course in design, emphasizing stress analysis, combined stresses, vibrations, and the design and application of machine elements.
- 435. Elements of Machines II.** (2:1:3) F.S. Prerequisite: Indus. Tech. 434.
An integrated course for advanced students. The student selects a project and completes a design which may employ electronic, pneumatic, hydraulic, and mechanical components.
- 436. Basic Computer-Assisted Part Programming.** (3:2:3) F. Tolman
A basic course in computer-assisted part programming, with emphasis on APT.
- 437. Advanced APT Part Programming.** (3:2:3) S. Tolman
Advanced computer-assisted APT part programming for machine tools and digital plotters.
- 440. Process Control Computers.** (3:2:2) S. Prerequisite: Comput. Sci. 332.
Instruction sets, assembly languages, and system programming features of small general-purpose computers as used in industrial process control environments.
- 441, 442. Real-Time Computer Systems.** (3:2:2 ea.) F.S. Prerequisite: completion of or concurrent registration in Indus. Tech. 440. Brown
Characteristics of typical system interfaces between modern control computers and physical plants and real-time programming techniques to satisfy interface requirements.
- 451. Photoetching.** (3:2:3) F. Prerequisite: Indus. Ed. 250. Jenkins
Technical study of the materials and procedures in producing photoengravings, photofabrication, stereotyping, printed circuits, photo, mechanical etchings on brass, copper, and zinc.
- 452. Advanced Letterpress.** (2:1:3) F. Prerequisite: Indus. Ed. 250. Jenkins
Advanced imposition and lockup, platen press operation, cylinder press operation, make-ready, paper cutting, die cutting, scoring, embossing and perforating, operation of bindery equipment.
- 453. Graphic Arts III, Photolithography.** (5:3:6) S. Prerequisite: Indus. Ed. 250. Jenkins
Advanced procedures in offset camera work, stripping procedures and surface platemaking for offset lithography. Emphasis on presswork, cold-type makeup, and silk-screen printing.

- 491R. Seminar for Industrial Technology.** (1:1:0 ea.) Su. Prerequisite: junior or senior standing in manufacturing or design and drafting.

A seminar designed to further the student's education and professional development by the use of special topics and by contact with personnel from industry.

- 590R. Special Problems in Manufacturing Technology.** (1-3:Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.

- 593. Special Problems in Welding Technology.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

DRAFTING

Courses

- 110. Blueprint Reading.** (2:2:0) F.S. Home Study also.

A basic course in the fundamentals of modern blueprint reading. For those not majoring in industrial or technical education.

- 111. Mechanical Drawing Fundamentals.** (3:3:0) F.S. Home Study also. Tolman
Fundamentals of mechanical drawing, including sketching, lettering, orthographic projection, auxiliary views, sectional views, isometric drawing, and basic dimensioning.

- 210. Descriptive Geometry.** (3:2:4) F.S. Prerequisite: Drafting 111.

Principles relating to point, line, plane, curved lines and surfaces, vectors, intersections, and developments, with application to practical problems.

- 211. Advanced Mechanical Drafting.** (3:3:1) F.S.Su. Prerequisite: Drafting 111.
Instruction in techniques of working drawings, precision dimensioning, simplified drafting, SAE and aerospace drafting standards, drafting room practices, and automated graphics.

- 256. Rendering and Perspectives.** (3:1:5) F.S.

Methods and procedures involved in rendering and drawing one-, two-, and three-point perspectives.

- 311. Aeronautical Drafting.** (3:2:4) F.S. Prerequisites: Drafting 210, 211. Tolman
Familiarization of terms and principles of flight, production drawings, layouts, sheet metal, lofting, microfilm requirements, manuals, mill specifications, checking, and change procedure.

- 355. Residential Drafting and Planning.** (3:2:4) Prerequisite: Drafting 111 or consent of instructor. Tolman

A correlation of good residential drafting techniques with basic principles of efficient house planning. Includes perspectives, plot plan, footing, foundation, floor plans, elevations, sections, electrical and mechanical installations.

- 356. Commercial Structure Drafting.** (3:1:5) F.S. (Offered 1971 and alternate years) Prerequisite: Drafting 355.

Students design and plan a small commercial building, complete with working drawings.

- 410. Technical Illustration.** (3:2:4) F.S. Prerequisite: Drafting 211.

Problems in axonometric illustration. Use of templates, overlays, Anderson Board, visuals, perspectives, and airbrush techniques.

- 411. Photodrawing.** (2:1:3) F. Prerequisite: Drafting 311. Jenkins

Applied course in the use of basic equipment, procedures, processes, and techniques which are common to industrial photodrawing practices.

- 449. Special Problems in Drafting.** (1-3:Arr.:Arr.) F.S.Su. Prerequisite: consent of instructor.

International Relations Program

Associate Professor: Taylor (coordinator, 118 FOB).



The International Relations Program is an interdepartmental and inter-college area program which, in combination with a major in one of the departments of the University, leads to a B.A. degree. The International Relations Program provides either a concurrent major or a minor to accompany the departmental major.

The program is designed to prepare the student for a career or for advanced study in international relations. Students will be required to complete a major in a department, to acquire a basic knowledge of a modern language, and to develop an integrated understanding of international relations. To enable the student to compete more effectively for a career, the student will be introduced to the study of intercultural relations and international politics in fields such as anthropology, psychology, sociology, geography, history, economics, and political science. This broad interdisciplinary training is also designed to prepare the student for advanced study in international relations.

Students majoring in family economics and home management, biological and agricultural education, animal science, business management, food science and nutrition, industrial technology, nursing, and other such fields are encouraged to investigate the International Relations Program as preparation for their possible employment with the State Department, the Agency for International Development, the United Nations, or other such national and international agencies.

Requirements for a Concurrent Major:

In addition to a departmental major and 16 hours (or equivalent) of modern language, the international relations major requires 30 hours. The program is divided as follows:

1. Required Courses.

Political Science	170	Introduction to International Politics
	300	Political Inquiry
	370	Theory of International Relations
	375	International Organizations
International Relations	499	Seminar in International Relations

2. Elective Courses.

Fifteen hours chosen from among the courses listed below drawn from at least three areas other than the departmental major.

Requirements for a Minor:

1. Required Courses.

Political Science	170	Introduction to International Politics
	370	Theory of International Relations

2. Elective Courses.

Nine hours chosen from among the courses listed below.

Anthropology

101	Introduction to Anthropology	3
105	Introduction to Social Anthropology	3
330	Peoples of Africa	3
340	Peoples of the Middle East	3
350	Peoples of South and East Asia	3
432	Political and Legal Institutions—Primitive Peoples	3
433	Economic Institutions	3

Asian Studies

101	Introduction to Asia	3
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Business Management

430	Introduction to International Business	3
431	International Marketing	3
432	International Corporate Finance	3

Communications

580	Comparative World Communication Systems	2
581	International Communication Problems	2

Economics

241	Comparative Economic Systems	3
334	Economic Development in Latin America	3
358	International Trade and Finance	3
430	Economic Development	3
441	Advanced Comparative Economic Systems	3
471	European Economic History	3
535	Economic Problems of Asia	3
558	International Trade and Finance	3

Geography

120	Geography and World Affairs	3
231	Economic Geography	3
441	Political Geography	3
455	Latin America	3
460	Europe	3
465	USSR and Its Satellites	3
470	Asia	3
475	Africa	3
480	Australia and New Zealand	2
556	South America	2
557	Caribbean Area	2
561	Western Europe and the Mediterranean	2
571	Problems of Asia	2
580	Geography of Underdeveloped Areas	2

History

323	Europe in the Twentieth Century	2
329	The Austrian Empire and Eastern Europe	3
331	The USSR and Eastern Europe	3
332	France	3
333	Modern Germany	3
340	Premodern Asia	3
341	Modern Asia	3
344	Modern China	3
346	Modern Japan	3
347	India	3
352	History of Latin America II	3
379	Contemporary United States History	3
384	U.S. Diplomatic History	3

Language

Advanced courses in a modern language beyond the 16-hour bachelor requirement	5
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Political Science

150	Introduction to Comparative Political Systems	3
170	Introduction to International Politics	3
350	Political Systems of USSR and Eastern Europe	3
355	Political Systems of United Kingdom and Commonwealth	3
359	Modernization and Political Change	3
380	World Communism	3
457	Government and History of Canada	3
525	The Military in Government and Politics	3
538	International Project Administration	3
549	Political System of France	3
551	Political System of China	3
552	Political System of Japan	3
553	Political Systems of the Middle East	3
556	Modernization and Political Change in South America	3
557	Modernization and Political Change in Mexico and the Caribbean	3
558	Modernization and Political Change in Asia	3
570	Formulation of American Foreign Policy	3
572	USSR Foreign Relations	3
573	International Relations of Western Europe	3
575	International Law	5
576	Regional International Systems	3
578	International Relations of Latin America	3
580	International Relations of Asia	3

Psychology

350	Introduction to Social Psychology (Sociol.-Psych.)	3
430	International Behavior	3
570	Computer Use in Behavioral Sciences	3

Sociology

210	Racial and Minority Group Relations	2
320	Social Statistics	3
350	Introduction to Social Psychology (Sociol.-Psych.)	3
423	Rural Sociology	2
470	Social Change	3
501	Political Sociology	3
552	Personality: Culture and Society	3
570	Class, Status, and Power	3
571	Latin-American Social Change	3
572	Rural Social Development in Latin America	3

Statistics

221	Principles of Statistics	3
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Course

499. **Senior Seminar in International Relations.** (3:3:0) F.S. (G-SS) Prerequisite: senior standing and near completion of major.

Research and writing for senior students majoring in international relations. Designed to integrate the broad field of international relations.

LANGUAGES

Foreign Language Study. The study of a foreign language is a unique educational experience. It is a means by which the student can participate in the inner life of another people and share their culture. Through the study of a foreign language, the student also comes to learn his own language better. The poet and philosopher Goethe said, "He who knows no other language, knows not his own."

The objectives of the courses in the departments of languages are as follows:

1. **General:** To teach the student to understand and to speak a language with facility and to develop skill in reading and writing. To provide a survey of foreign literatures and to acquaint the student with foreign cultures.
2. **Specific:** To prepare students for the teaching profession, government work at home and abroad, international trade, LDS missions in foreign countries, and research leading to advanced degrees.

Language Requirement for Graduation and Information for High School Graduates. Successful completion of a 201 language class or a more advanced class will fulfill the language requirement for graduation. High school graduates who have had two years of foreign language study may enroll for a 201 course in the language studied, or they may choose to begin with a 102 course. Those who have had one year of foreign language study in high school may enroll for a 102 course. A 201 course and a 102 course (or the equivalent of 102 in high school training) are required to fulfill the six- to eight-hour language requirement for graduation. Students who enroll for a 101 course may count these hours toward graduation, but a 101 course does not help fulfill the general education requirement. For further information or consultation, see the placement advisers for the language departments at registration time.

Library and Laboratory Facilities. The language departments have good library facilities and language laboratories permitting emphasis on the most modern language teaching techniques. The tape libraries contain some of the best dramatic and poetic works in the principal languages of the world.

Credit for Foreign Residence. Students who have had foreign residence may, with the consent of the language departments concerned, obtain a maximum of 12 to 16 hours of special foreign language credit. This may be done by successfully completing a more advanced course in the language and by passing an examination administered by the department. The credit is available upon payment of a special fee. Foreign students are not permitted to obtain credit in this way for their native language.

Major and Minor Requirements. Courses which fulfill the requirement for an undergraduate major or minor are listed under each separate language offering. Areas that generally serve as minors include a second foreign language, English, linguistics, humanities, one of the social sciences, or one of the fine arts.

Prospective Graduate Students. A reading knowledge of a second language is required of M.A. candidates. It is advisable to begin work on a second language no later than the junior year.

Graduate Assistantships. Graduate assistantships are available to language graduates whose undergraduate records, especially in languages, are unusually good. Applicants for assistantships must have an overall GPA of 3.0 or better and must have completed the following language courses: 326 (Phonetics and Pronunciation) and 377 (Secondary Teaching Procedures). The deadline for application is March 1.

Laboratory Assistantships. Well-qualified undergraduate majors may apply for laboratory assistantships. Priority will be given to those who have completed the 326 and 377 courses in their language specialty.

Classical and Asian Languages

Professors: R. L. Anderson, J. Reuben Clark, III (chairman, 329 McK), Nibley, Sperry.

Associate Professor: Rasmussen.

Assistant Professors: Chi, Meservy, Phillips, Williams.

Instructors: Duckwitz, Lee, Mackay, Muranaka.



Degrees Offered. The Department of Classical and Asian Languages offers the Bachelor of Arts Degree in Chinese, Japanese, Greek, and Latin; and the Master of Arts degree in Latin.

Classical Languages

The classical languages, Greek and Latin, are indispensable tools for prospective students in classics, biblical and early Christian studies, ancient history, Romance philology, and comparative literature. They are also strongly recommended for the study of linguistics and all literatures of the western world.

CLASSICAL CIVILIZATION

The following courses presuppose no knowledge of the Greek or Latin language and are open to all students. They are especially recommended for students who desire an understanding of the ancient tradition underlying modern literature in the western world.

Courses

- 341. Greek and Roman Mythology.** (2:2:0) F.S.Su. (G-HA) Clark, Phillips
Study of the Greek and Roman gods, goddesses, and myths.
- 441. Classical Literary Traditions I: Greek Literature from Homer to the Alexandrian Period.** (3:3:0) F. (G-HA) Phillips
A survey of the major Greek literary forms, including the epic, lyric, drama, history, philosophy, oratory, with emphasis on the origin and development of each tradition.
- 442. Classical Literary Traditions II: Roman Literature of the Republic and Early Roman Empire.** (3:3:0) S. (G-HA) Clark, Phillips
A survey of the major Latin literary forms in the Graeco-Roman period, including comedy, lyric, epic, elegy, satire, oratory, and history.
- 443. Classical Literary Traditions III: Latin and Greek Literature in the Middle Ages.** (3:3:0) F. Clark, Mackay
A survey of the influence of the classical heritage on medieval literature, with emphasis on history, hagiography, epic, romance, theater, and patristic writings.
- 461. Greek Drama in English Translation.** (2:2:0) S.Su. Phillips
A study of selected plays of Aeschylus, Sophocles, Euripides, Aristophanes, and Menander.

GREEK

The requirement for a major in Greek is 32 hours of course work which must include Greek 201, 301, 321, 322, 431, 432; Classical Civilization 441; either Classical Civilization 341 or 461; and 7 hours from Greek 429, 441, 442, 490R; also Greek 611, 612, 613. The requirement for a departmental minor in Greek is 20 hours of course work in Greek beyond the first year.

Courses

- 101, 102. **Elementary Greek.** (4:4:0 ea.) F.S. (m) Mackay, Phillips
201. **Intermediate Greek Reading and Composition.** (4:4:1) F. (m) Mackay
301. **Introduction to Greek Literature.** (4:4:0) S. Prerequisite: Greek 201 or consent of instructor. Mackay
- 321, 322. **Third-Year Grammar and Composition.** (3:3:0 ea.) F.S. (m) Pre-requisite: Greek 301 or equivalent. Phillips
Exercises in the composition of easy Greek prose correlated with readings in the Attic Orator.
429. **Greek Stylistic and Literary Analysis.** (3:3:0) S. (m) Prerequisite: Greek 322 or equivalent. Phillips
Exercises in criticism of Greek prose and poetry.
- 431, 432. **Masterpieces of Greek Literature.** (3:3:0 ea.) F.S. (G-HA m) Pre-requisite: Greek 301 or equivalent. Phillips
Reading of major Greek authors, especially Homer and Herodotus.
- 441, 442. **Survey of Greek Literature and Culture.** (3:3:0 ea.) F.S. (G-HA m) Prerequisite: Greek 301. Phillips
A survey of Greek literature and culture from Homer to the Alexandrian period, with lectures and readings.
- 490R. **Individual Study in Greek.** (1-3:Arr.:0 ea.) F.S. Prerequisite: Greek literature, excluding Greek 301. Phillips
495. **Senior Seminar for Majors.** (2:2:0) F. Prerequisite: at least 3 hours of Greek literature, excluding Greek 301. Phillips
611. **Readings in Greek: The Gospel and Acts.** (3:3:0) F. Prerequisite: one year of Greek or consent of instructor. Anderson, Nibley
612. **Readings in Greek: Paul's Letters.** (3:3:0) S. Prerequisite: one year of Greek or consent of instructor. Anderson, Nibley
613. **Readings in Greek: General Epistles and the Apocalypse.** (3:3:0) Su. Prerequisite: one year of Greek or consent of instructor. Anderson, Nibley

LATIN

The requirement for a major in Latin is 32 hours of course work which must include Latin 201, 301, 321, 322, 431, 432, 441, 442; Classical Civilization 341 and 442; and one course from Latin 429, 490R, 521, 561, or 562. A teaching major in Latin must also include Latin 377. The requirement for a departmental minor in Latin is 20 hours of course work in Latin beyond the first year. A teaching minor in Latin must also include Latin 377.

Courses

- 101, 102. **First-Year Latin.** (4:4:0 ea.) F.S.Su. (m) Clark, Mackay, Phillips
Designed for those who have had no Latin. Mastery of pronunciation, declensions, and conjugations. Correlation of Latin originals with English derivatives. Graded reading. Characteristics of Roman civilization.
- 111, 112. **Beginning Latin—Accelerated.** (4:4:0 ea.) F.S.
201. **Second-Year Latin.** (4:4:0) F.Su. Home Study also. (m) Prerequisite: Latin 102 or three units of Latin in high school. Clark, Mackay, Phillips
Readings from Caesar, Livy, etc., with a review and continuation of grammar.
301. **Introduction to Latin Literature.** (4:4:0) S.Su. Home Study also. (m) Prerequisite: Latin 201. Clark, Mackay, Phillips

315. **Prelegal Latin.** (2:2:0) F. Prerequisite: consent of instructor. Clark
Recommended for prelegal students.
316. **Elements of Technical and Scientific Terminology.** (3:2:0) S. Prerequisite:
consent of instructor. Clark, Phillips
Designed for premedical and predental students and students in the
physical and natural sciences.
317. **Latin for Archivists and Genealogical Researchers.** (3:1:1) F.S.Su.
Clark, Phillips
Fundamentals of Latin needed by archivists and those engaged in genea-
logical research.
- 321, 322. **Third-Year Grammar and Composition.** (3:3:0 ea.) F.S. Prerequisite:
Latin 301 or 112 or equivalent. Clark, Mackay
377. **Secondary Teaching Procedures.** (3:3:1) F.S.Su. Prerequisites: Ed. 301 and
Latin 322 or equivalent. Clark
Skills mastery, hearing, speaking, reading, writing, and identification
of teacher-pupil activities required for conceptual learning. Lectures, demon-
strations, and application of linguistic techniques to practical classroom
requirements.
429. **Latin Stylistic and Literary Analysis.** (3:3:0) F.S. Prerequisite: Latin 322
or equivalent. Clark, Phillips
- 431, 432. **Masterpieces of Latin Literature.** (3:3:0 ea.) F.S. (G-HA m) Pre-
requisite: Latin 301 or 112 or equivalent or consent of instructor.
Clark, Mackay, Phillips
- 441, 442. **Survey of Latin Literature and Culture.** (3:3:0 ea.) F.S. (G-HA)
Conducted in English. Clark, Phillips
479. **Secondary Student Teaching.** (4-8:1:20-40) F.S. Prerequisites: Ed. 301;
Latin 321, 377. Clark
- 490R. **Individual Study in Latin.** (1-3:Arr.:0 ea.) F.S.Su.
495. **Senior Seminar for Majors.** (2:2:0) F.S. Prerequisite: at least six hours
of Latin literature (excluding 301). Clark, Mackay, Phillips
520. **Advanced Composition and Grammar.** (2:2:0) S. Prerequisite: Latin 322
or equivalent. Clark, Phillips
521. **Romance Philology.** (2:2:0) F. Clark
- 561, 562. **Elementary and Advanced Medieval Latin.** (2:2:0 ea.) F.S. Prerequi-
site: Latin 301 or 112 or equivalent. Clark, Phillips
661. **Cicero.** (3:3:0) F. Clark
665. **The Latin Historians.** (2:2:0) F. Clark
671. **Virgil.** (3:3:0) S. Clark
675. **The Latin Poets.** (3:3:0) F. Clark, Phillips
Horace, Ovid, Lucretius, etc.
679. **The Latin Dramatists.** (3:3:0) S. Clark, Phillips
Plautus, Terence, etc.
- 681, 682. **The Latin Fathers.** (3:3:0 ea.) F.S. Prerequisite: consent of instruc-
tor. Phillips
- 690R. **Directed Readings.** (1-2:Arr.:0 ea.) F.S.Su. Clark
Individual study on a graduate level.
- 692R. **Seminar in Philology.** (2:2:0 ea.) F.S. Clark
- 694R. **Seminar in Literature.** (2:2:0 ea.) S.Su. Clark

699. Thesis for Master's Degree. (6-9:Arr.:0) F.S.Su.

Asian Languages

The study of Chinese, Japanese, and other Asian languages is an indispensable and challenging experience. It is vital for the student who wishes to participate in the inner life of the Asian peoples and appreciate their rich and unique cultures. It affords an excellent opportunity for students who wish to specialize in research, business, teaching, or the sciences.

ARABIC

Courses

- 101, 102. First-Year Arabic.** (5:5:2 ea.) F.S. (m)
The modern spoken language. Designed for those who have had no Arabic.
- 201. Intermediate Arabic Reading and Conversation.** (4:4:2) F. (m) Prerequisite: Arabic 102 or equivalent.
- 301. Introduction to Arabic Literature.** (4:5:0) S. Prerequisite: Arabic 201 or equivalent.

CHINESE (MANDARIN)

The requirement for a major in Chinese is at least 32 hours beyond the first year as follows: 201, 211, 301, 311, 321, 322, 441, 442, 443 or 444, 445.

The requirement for a departmental minor in Chinese is at least 20 hours beyond the first year as follows: 201, 211, 301, 311, 321, 441 or 443, 445.

Courses

- 101, 102. First-Year Chinese.** (4:4:2 ea.) F.S. (m) Lee
Designed for those who have had no Chinese. Pronunciation, fundamentals of grammar. Chinese characters recognition (101) and writing (102). Special emphasis on conversation and building of a substantial vocabulary.
- 201. Second-Year Chinese.** (4:4:1) F. (m) Prerequisite: Chinese 102. Chi, Lee
Reading, conversation, vocabulary building, special emphasis on writing of characters.
- 211. Second-Year Conversation.** (2:2:0) F. Prerequisite: Chinese 102 or consent of instructor. Chi, Lee
- 301. Second-Year Chinese (Continued).** (4:4:0) S. Prerequisite: Chinese 201 or consent of instructor. Chi, Lee
Continuous work of Chinese 201.
- 311. Third-Year Conversation.** (2:2:0) S. Prerequisite: Chinese 301 or consent of instructor. Chi, Lee
Continuous work of Chinese 211. Play reading.
- 321, 322. Selected Readings and Composition.** (3:3:0 ea.) F.S. Prerequisite: Chinese 301 or consent of instructor. Chi, Lee
Introductory readings in modern literary Chinese, with emphasis on the writing of more analytical papers.
- 421, 422. Readings in Chinese Social Sciences.** (3:3:0 ea.) F.S. Prerequisite: Chinese 322 or consent of instructor. Chi, Lee, Williams
Extensive reading of modern Chinese writings in history and the social sciences.
- 440. Historical Survey of Chinese Literature.** (3:3:0) F.S. (G-HA) Williams
A broad inquiry into the literary heritage of China, taught in English.

- 441, 442. Introduction to Classical Chinese.** (4:4:0 ea.) F.S. Prerequisite: Chinese 322 or consent of instructor. Chi, Williams
Intensive reading and interpretation of classical texts; introduction to syntax and patterns of classical Chinese prose and poetry.
- 443, 444. Modern Chinese Literature.** (3:3:0 ea.) F.S. (G-HA m) Prerequisite: Chinese 301 or consent of instructor. Williams
- 445. Chinese Civilization.** (3:3:0) S. (G-HA) Chi, Lee, Williams
Introduction to the institutions, culture, and fine arts of China.
- 490R. Individual Study in Chinese.** (1-3:Arr.:0 ea.) Prerequisite: only open to those who have had Chinese 322 or consent of instructor.
Assignments made to fit the individual needs of the advanced student.
- 495. Senior Seminar for Majors.** (2:2:0) F.S. Prerequisite: at least 6 hours of Chinese literature. Chi, Lee, Williams

HEBREW

Courses

- 101, 102. First-Year Hebrew.** (4:4:2 ea.) F.S. (m)
A beginning course in modern Hebrew as spoken in Israel today.
- 201. Second-Year Hebrew.** (4:4:2) F. (m) Prerequisites: Hebrew 101, 102, or equivalent.
- 301. Selected Readings.** (4:4:2) S. (m) Prerequisite: Hebrew 201 or equivalent.
- 441, 442. Classical Hebrew.** (4:4:0 ea.) F.S. (m) Meservy, Rasmussen
- 681. Studies in the Hebrew Old Testament.** (3:3:0) F. Prerequisite: two years of Hebrew or consent of instructor. Meservy, Rasmussen
- 682. Studies in Hebrew.** (3:3:0) S. Prerequisite: Hebrew 681.
Meservy, Rasmussen

JAPANESE

The requirement for a major in Japanese is at least 32 hours beyond the first year as follows: 201, 211, 301, 311, 321, 322, 443, 444, and 8 hours from 490R.

Courses

- 101, 102. First-Year Japanese.** (4:4:1 ea.) F.S. (m) Muranaka
Constant study of the writing systems. Fundamentals of grammar and the building of a substantial vocabulary. Easy conversation and composition throughout.
- 201. Intermediate Reading and Conversation.** (4:4:2) F. (m) Prerequisite: Japanese 102 or consent of instructor.
Reading texts representative of various modern written styles. Further practice in composition, conversation, and grammar.
- 211. Second-Year Conversation.** (2:2:0) F.S. Prerequisite: Japanese 102 or consent of instructor. Muranaka
- 301. Introduction to Japanese Literature.** (4:4:0) F.S. (m) Prerequisite: Japanese 201 or equivalent. Muranaka
- 311. Third-Year Conversation.** (2:2:0) F.S. Prerequisite: Japanese 301 or consent of instructor. Muranaka
- 321. Third-Year Grammar and Composition.** (3:3:0) F. Prerequisite: Japanese 301 or consent of instructor.
Study of journalistic readings in Japanese.

- 322. Third-Year Grammar and Composition.** (3:3:0) S. Prerequisite: Japanese 321 or consent of instructor.
Study of scholarly writings in Japanese.
- 443, 444. Modern Japanese Literature.** (3:3:0 ea.) F.S. Prerequisite: Japanese 321 or consent of instructor. Muranaka
From the eighteenth century to the present.
- 490R. Individual Study in Japanese.** (1-3:Arr:0 ea.) F.S.Su.
Assignments made to fit the individual needs of the advanced student.

KOREAN

Courses

- 101, 102. First-Year Korean.** (4:4:2 ea.) F.S.
The modern spoken language. Designed for those who have had no Korean.
- 201. Intermediate Korean Reading and Conversation.** (4:5:0) F.S. Prerequisite: Korean 102 or equivalent.
- 301. Introduction to Korean Literature.** (4:5:0) S. Prerequisite: Korean 201 or equivalent.

Semitic Languages

AKKADIAN

Courses

- 781, 782. Elementary Akkadian.** (2:2:0 ea.) F.S. Prerequisite: two years of biblical Hebrew. Meservy, Sperry

ARAMAIC AND TARGUMS

Courses

- 681, 682. Biblical Aramaic and the Targums.** (2:2:0 ea.) F.S. Prerequisite: at least one year of biblical Hebrew. Meservy, Sperry

EGYPTIAN

Courses

- 641. Elementary Egyptian.** (3:3:0) F. Prerequisite: consent of instructor. Nibley
- 642. Elementary Egyptian.** (3:3:0) S. Prerequisite: Egyptian 641 or consent of instructor. Nibley

SYRIAC

Courses

- 781. Elementary Syriac.** (5:5:0) F. Prerequisite: two years of biblical Hebrew or one year of Aramaic. Meservy, Sperry
- 782. Elementary Syriac.** (3:3:0) S. Prerequisite: Syriac 781. Meservy, Sperry

UGARITIC

Courses

- 781, 782. Elementary Ugaritic.** (3:3:0 ea.) Prerequisite: two years of biblical Hebrew. Meservy, Sperry
The alphabet, vocabulary, and grammar of the language of the Ras Shamra tablets. Valuable for its parallels to biblical Hebrew.

French and Italian

Professors: Brown*, Green (chairman, 357 McK), Lee.

Associate Professors: H. Clark, Miller, Smithson.

Assistant Professors: Giry, Heudier, Lambert, Slade.

Instructors: Ashford, Jensen, Kimball, Tarr*.



FRENCH

Twenty-four hours of course work beyond the second year are required for a departmental major: 321, 326, 401, 441, 442, 445, 495, plus a minimum of 7 additional hours to be chosen from the following courses: 429, 560, 565, 570, 575, 580, 585. Majors who have not lived in French-speaking countries are strongly urged to participate in our semester abroad program.

Fourteen hours of course work beyond the second year are required for a departmental minor: 311, 321, 326, 440, and either 429 or 445. Teaching majors and minors see Education section, "French."

Minors Recommended for French Majors

(All teaching majors are required to work under Option I. Nonteaching majors will have a choice of Option I or Option II.)

Option I. Complete a minor as described by the minor department. (Minors will be required of all those getting teaching certificates and must be chosen from those areas approved by TCO.) Minors may be selected to fit the individual needs of the student, but recommended areas include a second modern foreign language, Latin, Greek, English, European studies, comparative literature, humanities, social studies, business, or one of the fine arts.

Option II. Majors in the department who are not getting teaching certificates need not have a formal minor, but must complete at least 14 hours from among the following related fields: a second modern foreign language (upper-division courses only), Latin, Greek, English (excluding 100-level courses), linguistics, classical civilizations, European history or geography, humanities, archaeology, comparative literature, or other areas approved by the major adviser.

Courses

- 95, 96. Beginning French for Graduate Students.** (0:5:0 ea.) F.S.Su.
- 101, 102. First-Year French.** (4:4:4 ea.) F.S.Su.
Designed for those who have had no French. Daily development of the four basic language skills: comprehension, speaking, reading, and writing.
- 201. Intermediate French Reading and Conversation.** (4:4:4) F.S.Su. Home Study also. (m) Prerequisite: French 102, two years of French in high school, or consent of instructor.
- 211. Second-Year Conversation.** (2:2:2) F.S. Prerequisite: French 102 or consent of instructor. May be taken concurrently with 201.
- 301. Introduction to French Literature.** (4:4:0) F.S.Su. Home Study also. (m) Prerequisite: French 201 or consent of instructor.

311. **Third-Year Conversation.** (2:2:1) F.S.Su. Prerequisite: French 211 or consent of instructor. May be taken concurrently with 301.
- 321, 322. **Third-Year Grammar and Composition.** (3:3:2 ea.) F.S. Home Study also. Prerequisite: sixteen hours of French or equivalent.
326. **French Phonetics and Pronunciation.** (2:2:2) F.S. Prerequisite: French 301.
377. **French Language Teaching Procedures.** (3:3:2) F.S.Su. Prerequisites: French 321, 326, 445, or 440; Ed. 301 for anyone certifying. (Prospective teachers are advised to take French 377 as near the end of their major course work as possible and just before student teaching.) Green, Jensen, Miller
Mastery of teaching skills specific to foreign language instruction. Lectures, demonstrations, practice in instruction.
401. **Bibliography and Research Techniques for Undergraduates.** (1:1:0) F.S. Prerequisite: French 301 or consent of instructor.
411. **Fourth-Year Conversation.** (2:2:1) F.S. Prerequisite: French 311 or its equivalent as determined by adviser.
- 415, 416. **Advanced Reading for Graduate Students.** (3:3:0 ea.) Prerequisite: French 321.
Advanced reading in special fields for Ph.D. candidates who wish to complete their Ph.D. language requirements by intensive study of one language.
429. **Introduction to Stylistic and Literary Analysis.** (3:3:0) Prerequisite: French 321 or its equivalent.
Refinement of writing skills based on stylistic analysis and explication de textes. Intensive vocabulary building, fundamentals of semantics, grammatical problems.
440. **Historical Survey of French Literature.** (4:4:0) F.S. (G-HA) Prerequisite: French 301 or consent of instructor.
- 441, 442. **Survey of French Literature and Culture.** (3:3:0 ea.) F.S. (G-HA) Prerequisite: French 301 or consent of instructor.
General view of literary periods, movements, and social backgrounds, with representative readings. It is recommended that 441 be taken before 442.
445. **Introduction to French Civilization.** (3:3:0) F.S. (G-HA) Prerequisite: French 301 or consent of instructor.
451. **Survey of French Literature and Culture in the Americas.** (2:2:0) Prerequisite: French 301 or consent of instructor.
Origins to present time; Canada, United States, Central and South America.
479. **Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Ed. 301; French 321, 377.
- 490R. **Individual Study in French.** (1-3:Arr.:Arr. ea.) F.S.Su.
Assignments are made to fit the individual needs of the advanced student. Not to be taken in lieu of classes.
495. **Senior Seminar for Majors:** (2:2:0) F.S. Prerequisite: French 479 for teaching majors; at least 6 hours of French literature beyond 301 for departmental majors.
511. **Advanced Conversation for Students of Institute.** (0:2:1)
520. **French Composition and Grammar.** (2:2:0) H. Clark
521. **Romance Philology.** (3:3:0) R. Clark

522. **History of French Language.** (2:2:0) R. Clark
560. **Old French Literature.** (3:3:0) Slade
565. **French Literature of the Renaissance.** (2:2:0) Heudier, Slade
570. **French Literature of the Seventeenth Century.** (2:2:0) Green
575. **French Literature of the Eighteenth Century.** (2:2:0) Lambert
580. **French Literature of the Nineteenth Century.** (3:3:0) Green
585. **French Literature of the Twentieth Century.** (2:2:0) Lee
601. **Bibliography and Research Techniques.** (1:1:0) Green
626. **French Phonology.** (2:2:2) Prerequisite: French 326 or consent of instructor. Recommended for teachers.
629. **Stylistics.** (2:2:0) Smithson
Intensive linguistic and literary analysis of French, especially from modern writers: syntax, translation, advanced stylistic analysis, and advanced explication de textes.
- 645R. **Advanced Studies in French Civilization.** (2:2:0 ea.) Prerequisite: French 445, or consent of instructor. Lee
- 661R. **Seminar in Medieval French Literature.** (2:2:0 ea.)
- 666R. **Seminar in French Literature of the Renaissance.** (2:2:0 ea.)
- 671R. **Seminar in French Literature of the Seventeenth Century.** (2:2:0 ea.) Green
- 676R. **Seminar in French Literature of the Eighteenth Century.** (2:2:0 ea.) H. Clark
- 677R. **Principles of Foreign Language Learning and Teaching.** (2:2:0 ea.) Prerequisite: French 377 or consent of instructor. Green, Miller
681. **French Drama of the Nineteenth Century.** (2:2:0) H. Clark, Green
- 682, 683. **French Novel of the Nineteenth Century I, II.** (2:2:0 ea.) H. Clark, Green
- 684R. **Seminar in French Literature of the Nineteenth Century.** (2:2:0 ea.) H. Clark, Green
- 686R. **Seminar in French Literature of the Twentieth Century.** (2:2:0 ea.) Lee
- 687, 688. **Modern French Novel I, II.** (2:2:0 ea.) Lee
689. **Modern French Drama.** (2:2:0) Lee
- 690R. **Directed Readings.** (1-2:Arr.:0 ea.)
Individual study on a graduate level, to fit the needs of the graduate student. Not to be taken in lieu of classes.
- 692R. **Seminar in Philology.** (1-2:1-2:0 ea.) R. Clark
- 695R. **Seminar in French Literature.** (2:2:0 ea.)
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.)
721. **Romance Dialects.** (3:3:0) R. Clark
723. **Old French Phonology and Morphology.** (2:2:0) R. Clark
- 760R. **Seminar in Medieval French Literature.** (2:2:0 ea.)
- 765R. **Seminar in French Literature of the Renaissance.** (2:2:0 ea.)

- 770R. Seminar in French Literature of the Seventeenth Century. (2:2:0 ea.)
Green
- 775R. Seminar in French Literature of the Eighteenth Century. (2:2:0 ea.)
H. Clark
- 780R. Seminar in French Literature of the Nineteenth Century. (2:2:0 ea.)
H. Clark, Green
- 785R. Seminar in French Literature of the Twentieth Century. (2:2:0 ea.) Lee
- 792R. Seminar in Philology. (2:2:0 ea.) R. Clark
799. Dissertation for the Ph.D. Degree. (1-6:Arr.:0)

ITALIAN

A major in Italian is not offered. The departmental minor is 14 hours beyond the second year as follows: 311, 321, 322, 441, 442.

Courses

- 101, 102. **First-Year Italian.** (4:4:1 ea.) F.S.
Special attention to accurate pronunciation, for benefit of students of music and art for whom Italian has special interest and value. Grammar and graded reading.
201. **Intermediate Italian Reading and Conversation.** (4:4:0) F. Prerequisite: Italian 102 or two units of Italian in high school.
211. **Second-Year Conversation.** (2:2:2) F.S. Prerequisite: Italian 102 or consent of instructor. May be taken concurrently with 201.
301. **Introduction to Italian Literature.** (4:4:0) S. Prerequisite: Italian 201 or consent of instructor.
Extensive reading of intermediate texts.
311. **Third-Year Conversation.** (2:2:2) F.S. Prerequisite: Italian 211 or consent of instructor. May be taken concurrently with 301.
- 321, 322. **Third-Year Grammar and Composition.** (3:3:0 ea.) F.S. Prerequisite: Italian 301 or equivalent.
- 441, 442. **Survey of Italian Literature and Culture.** (3:3:0 ea.) F.S. (G-HA) Prerequisite: Italian 301 or consent of instructor.
General view of literary periods, movements, and social backgrounds, with representative readings. It is recommended that 441 be taken before 442.
- 490, 491. **Individual Study in Italian.** (1-3:Arr.:Arr. ea.) F.S.
Assignments made to fit the individual needs of the advanced student.

Germanic and Slavic Languages

Professors: Folsom, R. M. Rogers, Watkins
(chairman, 326 McK).

Associate Professors: Davis, Harris, Kelling,
T. F. Rogers, Speidel, Tate.

Assistant Professors: Baker, Britsch, Gubler,
Jarvis, Luckau, Roos, Wilson.

Instructor: Johansson.



Degrees Offered. The Department of Germanic and Slavic Languages offers the Bachelor of Arts degree in German and Russian. The Master of Arts degree and the Doctor of Philosophy degree are offered in German. Graduate students may select courses which give special emphasis to language, literature, or foreign language teaching. (See the Graduate School Catalog for more information regarding graduate studies.)

Semester in Salzburg. German majors and minors who have not had residence experience in the German-speaking countries are encouraged to participate in the annual University-sponsored semester in Salzburg, Austria. This program provides excellent opportunities for developing language proficiency and becoming better acquainted with the history and cultural achievements of Europe.

Minors Recommended for German or Russian Majors.

Option I: Complete a minor as described by the minor department. (Minors will be required of all those getting teaching certificates and must be chosen from those areas approved by TCO.) Minors may be selected to fit the individual needs of the student, but recommended areas include a second modern foreign language, Latin, Greek, English, Russian studies, European studies, comparative literature, humanities, social studies, business, or one of the fine arts.

Option II: Majors in the department who are not getting teaching certificates need not have a formal minor, but must complete at least 14 hours from among the following related fields: a second modern foreign language (upper-division courses only), Latin, Greek, English (excluding 100-level courses), linguistics, classical civilization, German or Russian history, European geography, humanities, comparative literature, or other areas approved by the major adviser.

DANISH Courses

340. **Introduction to Danish Literature.** (4:4:0) F.S. (G-HA m) Prerequisite:
consent of instructor. Harris, Watkins
Readings from the best Danish literature. An introduction to basic literary concepts.

DUTCH Courses

340. **Introduction to Dutch Literature.** (4:4:0) F.S. (G-HA m) Prerequisite:
consent of instructor. Tate
Readings from the best Dutch literature. An introduction to basic literary concepts.

FINNISH Courses

340. **Introduction to Finnish Literature.** (4:4:0) F.S. (G-HA m) Prerequisite:
consent of instructor. Wilson
Readings from the best Finnish literature. An introduction to basic literary concepts.

GERMAN

Requirements for Literature Majors: 29 hours of German courses beyond 201 as follows: 301, 321, 322, 326, 441, 442, 443, 444, 445, 495.

Requirements for Language or Teaching Majors: 29 hours of German courses beyond 201 as follows: 301, 321, 322, 326, 377, 429, 442, 443 or 444, 445, 495; Ling. 325.

Majors who have not had foreign residence experience or have not participated in the semester in Salzburg are expected to take German 311 and 411. Teaching majors and applicants for graduate assistantships must enroll for German 377. Students who plan to do graduate work in German will find the following courses most helpful: Ling. 325; Engl. 251 (Fundamentals of Literature) or 450 (The Criticism and Appreciation of Literature); Hist. 333 (Modern Germany); Phil. 110 (Survey of Philosophy) or 322 (History of Modern Philosophy).

Minor Requirements: 17 hours beyond German 201 as follows: 301, 311, 321, 326, 411, 440. Students planning to do part or all of their student teaching in German must take German 377.

(See the Education section for more explicit information regarding the teaching major and minor in German.)

Courses

95, 96. **Beginning German for Graduate Students.** (0:5:0 ea.) F.S.Su. Evening Classes only.

101, 102. **First-Year German.** (4:4:4 ea.) F.S.Su. (m)

Designed for those who have not had German. Pronunciation, reading, fundamentals of grammar. Special emphasis on conversation and the building of a substantial vocabulary.

201. **Intermediate German Reading and Conversation.** (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: German 102, three units of German in high school, or consent of instructor.

Reading, review of grammar, conversation, vocabulary building.

211. **Second-Year Conversation.** (2:2:1) F.S. (m) Prerequisite: German 201 or consent of instructor.

301. **Introduction to German Literature.** (4:4:0) F.S.Su. Home Study also. (m) Prerequisite: German 201 or equivalent.

Extensive readings from the literatures of the language, using graded texts. An introduction to basic literary concepts.

311. **Third-Year Conversation.** (2:2:1) F.S. (m) Prerequisite: German 301 or consent of instructor.

321. **Third-Year Grammar and Composition.** (3:3:0) F.S. (m) Home Study also. Prerequisite: 16 hours of college German or equivalent.

Intended for those students who want to understand and master more than just the fundamental principles of the German language. Intensive drills in grammar, written and oral reports on given subjects.

322. **German Stylistics and Introduction to Literary Analysis.** (3:3:0) F.S. Home Study also. Prerequisite: German 321.

Study of German stylistics and fundamentals of literary analysis and criticism. Analytical study of representative German literary works.

326. **German Phonetics and Pronunciation.** (2:2:1) F.S. (m) Prerequisite: German 301.

Folsom, Luckau

377. **German Language Teaching Procedures.** (3:3:2) F.S. Prerequisites: German 321, 326, 445 or 440; Ed. 301 for anyone certifying. (Prospective teachers should take German 377 after as many upper-division German courses as possible and just before student teaching or graduate teaching.)

Mastery of teaching skills specific to foreign language instruction. Lec-

tures, demonstrations, and participation in instruction, and preparation of teaching materials.

411. **Fourth-Year Conversation.** (2:2:1) F.S. Prerequisite: German 321 or consent of instructor.
- 415, 416. **Advanced Reading for Graduate Students.** (3:3:0 ea.) Prerequisite: German 321. Smith
Advanced reading and translation in the special field of the graduate student who wishes to complete his language requirement by intensive study of one language.
429. **The Structure of German.** (3:3:0) S. Prerequisite: German 322. Folsom
440. **Survey of German Literature and Culture.** (4:4:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Davis, Kelling
General survey of German literature and culture from the beginning to the present with representative readings. **For minors only.**
441. **German Literature from the Beginning to 1700.** (3:3:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Baker, Folsom, Roos, Watkins
442. **German Literature in the Eighteenth Century.** (3:3:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Davis, Kelling, Rogers
443. **German Literature in the Nineteenth Century.** (3:3:0) F.S. (G-HA m) Home Study also. Prerequisite: German 301 or equivalent. Baker, Speidel
444. **German Literature in the Twentieth Century.** (3:3:0) F.S. (G-HA m) Prerequisite: German 301 or equivalent. Kelling, Rogers, Smith
445. **Cultural History of Germany.** (3:3:0) F.S. (G-HA m) Kelling, Watkins
479. **Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Ed. 301; German 321, 377. Luckau
- 490, 491. **Individual Study in German.** (1-3:Arr.:Arr. ea.) F.S.Su.
Assignments are made to fit the individual needs of the advanced student.
492. **German Readings (Honors).** (1-2:1-2:0) F.S.Su. Prerequisite: German 301 or good reading knowledge of German.
495. **Senior Seminar for Majors.** (2:2:0) F.S. Prerequisite: at least 6 hours of German literature (excluding 301). Two sections: one for teaching majors and one for prospective graduate students. Luckau, Smith
601. **Bibliography and Research Techniques.** (1:1:0) F. Prerequisite: graduate status. Davis, Kelling
615. **Teaching German Grammar.** (2:2:0) F.S. Prerequisites: Ling. 325, German 326, or consent of instructor. Folsom, Watkins
An analysis and organization of German morphology and syntax for effective teaching of German grammar.
620. **History of the German Language.** (3:3:0) S. Prerequisite: graduate status. Folsom, Watkins
622. **Gothic.** (3:3:0) F.
623. **Old High German and Old Saxon.** (3:3:0) S. Folsom, Watkins
626. **German Phonology.** (2:2:0) F.S. Prerequisite: German 326 or consent of instructor. Folsom
A study of the sounds of German and its stress, rhythm, and intonation patterns, contrasted and compared with those of English.
- 628, 629. **Middle High German I, II.** (3:3:0 ea.) F.S. Folsom, Watkins

650. **Literary Criticism.** (2:2:0) F.S. Prerequisite: graduate status or consent of instructor. Davis, Kelling, Speidel
Modern critical theory and analysis of German literary works.
670. **German Baroque Literature.** (3:3:0) Prerequisite: graduate status. Davis, Roos
681. **German Romanticism.** (3:3:0) Prerequisite: graduate status. Speidel
683. **German Realism.** (3:3:0) Prerequisite: graduate status. Baker
- 690R. **Directed Readings.** (2:Arr.:0 ea.) F.S.Su
- 692R. **Seminar in Philology.** (2:2:0 ea.) F.S.Su.
Special problems and topics of relevance in German philology. Topics and instructors to be announced.
- 694R. **Seminar in Literature.** (2:2:0 ea.) F.S.Su.
Intensive analysis of a particular writer, a major work or a limited theme. Training in independent literary research. Topic and professor change each semester.
- 697R. **Seminar in the Teaching of German.** (2:2:0 ea.) F.S. For experienced language teachers. Davis, Folsom, Rogers, Taylor, Watkins
Latest developments and research in various aspects of language teaching.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
741. **German Lyric Poetry.** (2:2:0) F.S. Britsch, Kelling
742. **The German Drama to 1880.** (3:3:0) F. Prerequisite: graduate status. Rogers
743. **The German Drama from 1880 to Present.** (3:3:0) Prerequisite: graduate status. Britsch, Rogers
744. **The German Novel to 1880.** (3:3:0) F. Baker, Speidel
745. **The German Novel from 1880 to Present.** (2:2:0) S. Smith, Speidel
746. **The German Short Story.** (3:3:0) S. Prerequisite: graduate status. Smith
776. **Lessing.** (2:2:0) F. Davis, Rogers
777. **Schiller.** (2:2:0) S. Davis, Smith
778. **Goethe.** (2:2:0) F. Allen, Kelling
- 792R. **Seminar in Philology.** (2:2:0 ea.) S.Su.
Advanced investigation and analysis of special problems and topics in Germanic philology. Topics and professors will vary.
- 794R. **Seminar in Literature.** (2:2:0 ea.) S.Su.
Advanced research and analysis of a limited theme or particular writer. Subject will vary. Topic and professor to be announced.
799. **Dissertation for the Ph.D. Degree.** (Arr.) F.S.Su.

NORWEGIAN Courses

- 101, 102. **First-Year Norwegian.** (4:4:2 ea.) F.S. Harris, Watkins
Designed for those who have had no Norwegian.
201. **Intermediate Norwegian Reading and Conversation.** (4:4:1) F.S. Prerequisite: Norwegian 102 or consent of instructor. Harris, Watkins
340. **Introduction to Norwegian Literature.** (4:4:0) F.S. (G-HA m) Prerequisite: consent of instructor. Harris, Watkins
Readings from the best Norwegian literature. An introduction to basic literary concepts.

490, 491. Individual Study in Norwegian. (1-3:Arr.:Arr. ea.) F.S.Su.

Harris, Watkins

Assignments are made to fit the individual needs of the advanced student.

RUSSIAN

The following courses are required for the major in Russian: 201, 211, 301, 311, 312, 321, 322, 326, 441, 442, 445. For the minor 201, 211, 301, 311, 321, 441 or 442, and 445 are required. Ling. 325 is strongly recommended, and Russian 377 is required for either the teaching major or minor, in addition to the courses listed above.

Courses

101, 102. First-Year Russian Grammar and Composition. (5:5:3 ea.) F.S.Su. (m)

201. Intermediate Russian Reading and Conversation. (5:5:3) F.S.Su. (m) Prerequisite: Russian 102 or consent of instructor, based on prior Russian language experience.

Designed for those who have had Russian. Pronunciation and conversation.

211. Second-Year Conversation. (2:2:2) F.S. (m) Prerequisite: Russian 201 or consent of instructor.

301. Introduction to Russian Literature. (3:3:0) F.S. (m) Prerequisite: Russian 201 or consent of instructor. To be taken with Russian 211.

311, 312. Third-Year Conversation. (2:2:1 ea.) F.S. (m) Prerequisite: Russian 301 or consent of instructor.

321, 322. Third-Year Grammar and Composition. (3:3:0 ea.) F.S. (m) Prerequisite: Russian 301 or equivalent. Gubler, T. F. Rogers

326. Russian Phonetics and Pronunciation. (2:2:1) F. (m) Prerequisite: Russian 301 or consent of instructor. Gubler

377. Secondary Teaching Procedures. (3:3:1) F.S. Prerequisites: Ed. 301, and Russian 322, or equivalent. Jarvis

Skills mastery, hearing, speaking, reading, writing, and identification of teacher-pupil activities required for conceptual learning. Lectures, demonstrations, and application of lingual techniques to practical classroom requirements.

385, 386. Scientific Russian. (2:2:0 ea.) F.S. Evening Classes only. Prerequisite: one year of college Russian or equivalent. T. F. Rogers

441, 442. Survey of Russian Literature. (3:3:0 ea.) F.S. (G-HA) Prerequisite: Russian 322 or equivalent. Gubler, T. F. Rogers

445. Cultural History of Russia. (3:3:0) S. (G-HA m) Prerequisite: Russian 301 or equivalent. Gubler, T. F. Rogers

479. Secondary Student Teaching. (4-8:1:20-40) F.S. Prerequisites: Ed. 301; Russian 321, 377. Jarvis

490, 491. Individual Study in Russian. (1-2:Arr.:Arr. ea.) F.S.Su.

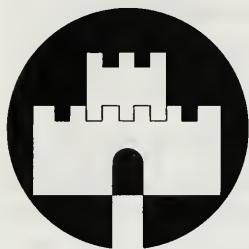
Assignments made to fit the needs of the advanced student.

SWEDISH**Courses**

340. Introduction to Swedish Literature. (4:4:0) F.S. (G-HA m) Prerequisite: consent of instructor. Harris, Watkins

Readings from the best Swedish literature. An introduction to basic literary concepts.

Spanish and Portuguese



Professors: Compton, de Jong, Dowdle, Gibson (chairman, 303 McK), Hansen, Wilkins.

Associate Professors: Anderson, Moon, Rosen.

Assistant Professors: Ashworth, Brown, Hall, Jackson, Quackenbush, Shreeve, Taylor.

Instructors: Dennis, Jensen, Valentine.

Special Instructor: Spencer.

Degrees Offered

The Department of Spanish and Portuguese offers the Bachelor of Arts and Master of Arts degrees in Portuguese and Spanish, and the Doctor of Philosophy degree in Spanish. For graduate-degree requirements, see the Graduate School Catalog.

Foreign Residence Programs

The department cosponsors summer residence programs in Mexico and semester programs in Spain. Spanish majors and minors who have not had foreign residence experience are encouraged to participate in these programs, as they provide excellent opportunities for development of language proficiency.

Prospective Graduate Students

Prospective graduate students are reminded that a second, and sometimes a third, language will be required of them in graduate school. It is advisable that work in at least one other language be started before the junior year.

Minors Recommended for Spanish or Portuguese Majors

(All teaching majors are required to work under Option I. Nonteaching majors will have a choice of Option I or Option II.)

Option I: Complete a minor as described by the minor department. (Minors will be required of all those getting teaching certificates and must be chosen from those areas approved by TCO.) Minors may be selected to fit the individual needs of the student, but recommended areas include a second modern foreign language, Latin, Greek, English, Latin-American studies, European studies, comparative literature, humanities, social studies, business, or one of the fine arts.

Option II: Majors in the department who are not getting teaching certificates need not have a formal minor, but must complete at least 14 hours from among the following related fields: a second modern foreign language (upper-division courses only), Latin, Greek, English (excluding 100-level courses), linguistics, classical civilizations, Latin-American history or geography, Spanish history and geography, humanities, archaeology, comparative literature, or other areas approved by the major adviser.

PORTUGUESE

The requirement for a major is 24 hours of upper-division courses beyond the second year, which must include the following: Portuguese 321, 322, 431, 432. The remaining hours are to be taken from advanced Portuguese classes or Ling. 325.

The requirement for a departmental minor is 12 hours of upper-division courses, which must include Portuguese 321, 431, and 432 or 445.

Courses

- 101, 102. **First-Year Portuguese.** (4:4:1 ea.) F.S. (m)
A beginning course. Pronunciation, conversation, reading, and fundamentals of grammar. Special attention to Portuguese as the language of Brazil.
201. **Intermediate Portuguese Reading and Conversation.** (4:4:0) F. Home Study also. (m) Prerequisite: Portuguese 102 or three units of Portuguese in high school.
211. **Second-Year Conversation.** (2:2:Arr.) F.S. Prerequisite: Portuguese 102 or consent of instructor.
301. **Intermediate Conversation, Reading, and Writing.** (4:5:0) S. Home Study also. (m) Prerequisite: Portuguese 201.
Extensive readings in intermediate edited texts, and controlled composition.
311. **Third-Year Conversation.** (2:2:Arr.) F.S. Prerequisite: Portuguese 301 or consent of instructor.
- 321, 322. **Third-Year Grammar and Composition.** (3:3:0 ea.) F.S. Prerequisites: Portuguese 301; 16 hours of Portuguese or the equivalent.
de Jong, Dennis, Jensen
326. **Portuguese Phonetics and Pronunciation.** (2:2:2:) F.S. Prerequisite: Portuguese 301, or equivalent, or consent of instructor. de Jong, Dennis, Jensen
- 431, 432. **Survey of Brazilian Literature I, II.** (3:3:0 ea.) F.S. Home Study also. (G-HA) Prerequisite: Portuguese 301 or consent of instructor.
de Jong, Dennis
445. **Iberian and Ibero-American Civilization.** (3:3:0) F.S.Su. (G-HA) Prerequisite: Portuguese 301 or equivalent. Gibson
- 490, 491. **Individual Study in Portuguese.** (1-3:Arr.:Arr. ea.) F.S.Su. de Jong
521. **Romance Philology.** (3:3:0) F. Clark
522. **History of the Portuguese Language.** (2:2:0) Gibson, Jensen
552. **Machado de Assis.** (2:2:0) F. Prerequisites: Portuguese 431, 432, or equivalent. de Jong, Dennis
553. **O Modernismo.** (2:2:0) S. Prerequisites: Portuguese 431, 432, or equivalent. de Jong, Dennis, Jensen
The modern movement in Brazilian literature (1920-1945).
- 620, 621. **Portuguese Composition.** (3:3:0 ea.) F.S. de Jong, Jensen
641. **Introduction to Portuguese Literature.** (3:3:0) F.S. de Jong, Jensen
642. **Contemporary Portuguese Literature.** (3:3:0) S. de Jong, Jensen
650. **Brazilian Literature.** (3:3:0) F.S. de Jong, Jensen
651. **Contemporary Brazilian Literature.** (3:3:0) S. de Jong, Jensen
690. **Directed Readings.** (1-2:0:Arr.) F.S.Su.
692. **Seminar in Philology.** (2:2:0) F.S. de Jong
- 694R. **Seminar in Literature.** (2:2:0 ea.) S.Su.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.

SPANISH

The requirement for a major in Spanish is 24 hours of upper-division courses beyond the second year, which must include Spanish 321, 322, or 439, 441, 451.

The additional 10 hours are to be taken from other advanced Spanish offerings beyond 322 or Ling. 325. Spanish 439 is highly recommended for those who want to specialize in literature. Spanish 322 is recommended for those who wish to emphasize the study of languages.

No "D" credit will be accepted as part of the 24-hour major requirement.

The requirement for a departmental minor is 12 hours of upper-division courses beyond the second year, including Spanish 321, 441 or 451, 445 or 351. (For requirements for a teaching major or minor see Education.) Spanish 326 and 377 are required for a graduate teaching assistantship.

Courses

- 95, 96. **Beginning Spanish for Graduate Students.** (0:5:0 ea.) F.S.Su. Evening Classes only.
- 101, 102. **First-Year Spanish.** (4:4:4 ea.) F.S.Su. (m)
An audio-lingual approach emphasizing pattern practice and common grammatical structures.
201. **Intermediate Spanish Reading and Conversation.** (4:4:1) F.S.Su. Home Study also. (m) Prerequisite: Spanish 102, or three units of high school Spanish, or consent of instructor.
211. **Second-Year Conversation.** (2:2:Arr.) F.S.Su. Prerequisite: Spanish 102 or consent of instructor.
301. **Introduction to Spanish Literature.** (4:5:0) F.S.Su. Home Study also. (m) Prerequisite: Spanish 201 or equivalent.
311. **Third-Year Conversation.** (2:2:1) F.S.Su. Prerequisite: Spanish 301 or consent of instructor.
- 321, 322. **Third-Year Grammar and Composition.** (3:3:0 ea.) F.S. Home Study also. (m) Prerequisite: Spanish 301 or equivalent.
326. **Spanish Phonetics and Pronunciation.** (2:2:2) F.S. (m) Anderson, Brown, Hall
351. **Hispanic Civilizations.** (2:2:0) F.S.Su. (G-HA) (Offered only in foreign residence programs)
377. **Spanish Language Teaching Procedures.** (3:3:2) F.S.Su. Prerequisites: Spanish 321, 326, 445; Ed. 301 for anyone certifying. (Not to be counted toward Spanish major requirement. Prospective teachers should take Spanish 377 after as many upper-division Spanish courses as possible and just before student teaching.) Jackson, Taylor
Mastery of teaching skills specific to foreign language instruction. Lectures, demonstrations, participation in instructional activities in actual classroom situations.
439. **Elements of Literary Analysis.** (3:3:0) F.S.Su. (G-HA) Prerequisite: Spanish 321.
441. **Survey of Spanish Literature.** (4:4:0) F.S.Su. (G-HA m) Home Study also. Prerequisite: Spanish 301 or consent of instructor. This course is a prerequisite to all Spanish peninsular literature classes. Anderson, Ashworth, Dowdle, Gibson, Hansen, Moon, Rosen
445. **The Culture of the Hispanic World.** (3:3:0) F.S.Su. (G-HA m) Prerequisite: Spanish 301 or consent of instructor. Gibson, Hansen, Rosen
451. **Survey of Hispanic-American Literature.** (4:4:0) F.S.Su. (G-HA m) Home Study also. Prerequisite: Spanish 301 or consent of instructor. (Spanish 441 strongly recommended.) This course is a prerequisite to all other Spanish-American literature courses. Brown, Compton, Shreeve
454. **Hispanic-American Novel.** (3:3:0) F.S. Prerequisite: Spanish 451 or consent of instructor. Brown, Compton

458. **Hispanic-American Short Story.** (3:3:0) S. (G-HA) Prerequisite: Spanish 451 or consent of instructor. Brown, Compton
An introduction to the short story and its development as an important literary genre in Spanish America, with principal authors.
470. **The Narrative of the Golden Age.** (3:3:0) F.S. (G-HA) Prerequisite: Spanish 441 or consent of instructor. Dowdle, Gibson, Moon, Rosen
479. **Secondary Student Teaching.** (4-8:0:20-40) F.S. Prerequisites: Ed. 301; Spanish 301, 377. Jackson, Taylor
485. **Introduction to Contemporary Spanish Literature.** (3:3:0) F.S. (G-HA) Prerequisite: Spanish 441 or consent of instructor. Ashworth, Moon
- 490, 491. **Individual Study in Spanish.** (1-3:Arr.:Arr. ea.) F.S.Su.
Assignments are made to fit the individual needs of the advanced student. By permission only.
492. **Spanish Readings (Honors).** (1-2:1-2:0) F.S.Su. Prerequisite: Spanish 301 or good reading knowledge of Spanish.
495. **Senior Seminar for Majors.** (2:2:0) F.S. Prerequisite: at least six hours of Spanish literature.
520. **Advanced Spanish Composition and Grammar.** (2:2:0) F.S.Su. Anderson
521. **Romance Philology.** (3:3:0) F. Clark
522. **History of the Spanish Language.** (2:2:0) S. Dowdle, Gibson
556. **Hispanic-American Poetry.** (3:3:0) F.S. Compton
580. **Nineteenth-Century Spanish Drama and Poetry.** (3:3:0) F.S. Prerequisite: Spanish 441 or consent of instructor. Ashworth, Dowdle, Gibson
581. **The Nineteenth-Century Spanish Novel.** (3:3:0) F.S. Prerequisite: Spanish 441 or consent of instructor. Ashworth, Dowdle, Gibson
584. **Generation of '98.** (3:3:0) F.S. Ashworth, Moon
601. **Bibliography and Research Techniques.** (2:2:0) F. Rosen
626. **Spanish Phonology.** (2:2:0) F.S.Su. Prerequisite: Spanish 326 or consent of instructor. Anderson
A study of the sounds of Spanish and its stress, rhythm, and intonation patterns, contrasted and compared with those of English.
654. **The Spanish-American Novel: Beginnings.** (2:2:0) F.S. Compton, Hansen
655. **The Spanish-American Novel: Contemporary.** (2:2:0) F.S. Compton, Hansen
656. **The Modernista Movement.** (2:2:0) S. Compton
658. **Hispanic-American Short Story.** (2:2:0) F.S. Compton
660. **Spanish Medieval Literature.** (2:2:0) F. Gibson
670. **Golden-Age Drama.** (3:3:0) F.S. Dowdle, Gibson, Rosen
671. **Golden-Age Prose.** (2:2:0) F.S. Dowdle, Gibson, Rosen
672. **Golden-Age Poetry.** (Nondramatic) (2:2:0) F.S. Dowdle, Gibson, Rosen
- 685, 686. **Twentieth-Century Literature.** (2:2:0 ea.) F.S. Ashworth, Moon
- 690R. **Directed Readings.** (1-2:Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.
Individual study on a graduate level, to fit the needs of the graduate student.

692. Seminar in Philology. (2:2:0) F.S.Su.
694R. Seminar in Spanish Literature. (2:2:0 ea.) F.S.Su.
697R. Seminar in Spanish Teaching. (2:2:0 ea.) F.S.Su. For experienced language teachers. Anderson, Jackson, Rosen, Taylor
699. Thesis for Master's Degree. (6:Arr.:Arr.) F.S.Su.
721. Romance Dialects. (3:3:0) F.
741. The Spanish Poetic Tradition. (2:2:0) F.
742. The Development of Spanish Drama. (2:2:0) S.
744. Spanish Novelistic Prose. (2:2:0) F.
773. Cervantes. (2:2:0) S.
774. Lope de Vega. (2:2:0) F.
792R. Seminar in Philology. (2:2:0 ea.) F.S.
794R. Seminar in Literature. (2:2:0 ea.) F.S.
799. Dissertation for the Ph.D. Degree. (Arr.) F.S.Su.



Class studying in the electronic language listening laboratory

Latin-American Studies

Associate Professor: Craig (coordinator, 113
FOB).



The Latin-American Studies Program is an interdepartmental and inter-college area program which, in combination with a major in one of the departments of the University, leads to a B.A. degree. The Latin-American program provides either a concurrent major or a minor to accompany the departmental major. The program is designed to meet the professional and cultural goals of persons especially interested in Latin America whose needs are not fully served by a major in one department. The Department of Spanish and Portuguese offers training in the languages and literatures of Latin America; the Political Science Department, the governments and political institutions, and so forth. Those who seek employment in business or governmental agencies in Latin America, or who for other reasons are interested in the area, may best prepare themselves professionally by broad study in the languages, literatures, culture, geography, politics, history, society, and economy of the region. The Latin-American Studies Program is designed to fill these requirements. Students interested in Latin America who plan to do graduate study or to teach will find their needs met by the double major program, which combines the advantages found in the breadth of a comprehensive understanding of an area with those to be had in depth through a major in a single discipline.

Requirements for a concurrent major (no minor required):

1. A major in one of the departments of the University.
2. Proficiency in the Spanish or Portuguese language, determined by examination (equivalent to successful completion of Spanish 321 or Portuguese 321).
3. A total of 28 hours in courses dealing with Latin America of which the following core courses are required:

Economics 334. Economic Development in Latin America ¹	3
Geography 455. Latin America	3
History 352. History of Latin America II	3
Either:	
Political Science 556. Modernization and Political Change in South America	
or	
557. Modernization and Political Change in Mexico and the Caribbean	3
Sociology 571. Latin-American Social Change	3
Either:	
Spanish 451. Survey of Hispanic-American Literature ²	4
or	
Portuguese 431. Survey of Brazilian Literature I ³	3

¹Prerequisites: Econ. 111, 112, or equivalent.

²Prerequisite: Spanish 301 or consent of instructor.

³Prerequisite: Portuguese 301 or consent of instructor.

4. Additional area courses to make a total of 28 hours.
5. No courses taken to fill the Latin-American studies major will be counted toward the departmental major.

Requirements for a minor:

A total of 14 hours (in addition to the first two years of college Portuguese or Spanish, or the equivalent) from the list of approved area courses; at least 9 of the 14 hours are to be from the core courses outlined above. No course may count toward both the major and the minor. The coordinator may approve satisfactory equivalents, in consultation with the departments. However, in no case shall the requirements be less than those stated above.

Following are the additional area courses in the program:

Anthropology

- | | |
|---|---|
| 318. Native Peoples of Middle America | 2 |
| 319. Native Peoples of South America | 2 |

Archaeology

- | | |
|-------------------------------------|---|
| 355. Mesoamerican Archaeology | 3 |
|-------------------------------------|---|

Business Management

- | | |
|---|---|
| 430. Introduction to International Business (Latin-American emphasis) | 3 |
| 431. International Marketing (Latin-American emphasis) | 3 |
| 432. International Corporate Finance (Latin-American emphasis) | 3 |

Geography

- | | |
|---------------------------|---|
| 556. South America | 2 |
| 557. Caribbean Area | 2 |

History

- | | |
|---------------------------------------|---|
| 334. Spain | 3 |
| 351. History of Latin America I | 3 |
| 453. Mexico and the Caribbean | 3 |

Linguistics

- | | |
|--|---|
| 529. Linguistic Structures (Major Latin-American Indian languages) | 3 |
|--|---|

Political Science

- | | |
|---|---|
| 578. International Relations of Latin America | 3 |
|---|---|

Portuguese

- | | |
|--|-------|
| 321, 322. Third-Year Grammar and Composition | 3 ea. |
| 432. Survey of Brazilian Literature II | 3 |
| 552. Machado de Assis | 2 |
| 553. O Modernismo | 2 |

Sociology

- | | |
|--|---|
| 572. Rural Social Development in Latin America | 3 |
|--|---|

Spanish

- | | |
|--|-------|
| 321, 322. Third-Year Grammar and Composition | 3 ea. |
| 441. Survey of Spanish Literature | 4 |
| 445. The Culture of the Hispanic World | 3 |
| 454. Hispanic-American Novel | 3 |
| 458. Hispanic-American Short Story | 3 |
| 556. Hispanic-American Poetry | 3 |

Law Enforcement Education

Assistant Professor: Fletcher (coordinator, 134 FOB).

Instructors: Jeffs, Lunnen, Nielsen.



The Law Enforcement Education Program is designed to prepare students for careers in law enforcement and related fields in the administration of criminal justice. The courses offered will equip students with the background and skills necessary to qualify them for employment with federal, state, local, industrial-institutional, and private law enforcement agencies. The need for this type of educated personnel is critical in our nation today. The aim of the program is to produce law enforcement and other criminal justice personnel who possess high-level professional skills, an understanding of the forces at work in society, skill in human relations, and the ability to adapt to the rapid changes of modern living.

Degrees are offered at the associate- and bachelor's-degree levels, and a master's degree is currently being implemented.

Associate Degree in Law Enforcement

The associate-degree program is administered by the Technical Institute of the College of Industrial and Technical Education. This degree is earned upon the completion of a two-year curriculum consisting of approximately 50 percent general education courses and 50 percent specialized courses in law enforcement and closely-related subjects. Students desiring to obtain this degree should enroll in the Technical Institute of the College of Industrial and Technical Education. For further details regarding the associate-degree program, see the Technical Institute section.

Bachelor's Degree in Law Enforcement

Students majoring in law enforcement are required to complete 30 credit hours of study chosen from the following courses in consultation with their adviser:

Required Courses:

Law Enf. 101, 102, 301, 302
Health 121 or equivalent
Pol. Sci. 311, 330
Psych. 111 or 350
Sociol. 112, 380

Elective Courses:

Law Enf. 501, 502
Econ. 111, 112
Geog. 211
Health 460
Physics 177
Pol. Sci. 360, 361 (531, 532, 533, 537 available for advanced study)
Psych. 440
Sociol. 111, 383, 386, 389 (590, 591 available for advanced study)
Speech and Dram. Arts 102

Requirements for a Minor for Law Enforcement Majors

Although a minor is no longer required under present University regulations, students majoring in law enforcement may complete a minor in any of the other departments in the University. Recommended minors are: political science, psychology, or sociology. The number of credit hours needed and the courses which are required to complete a minor are controlled by the department in which the minor is taken. The credit hours used in fulfilling the minor requirement cannot be counted twice with those used in fulfilling the major requirements. As an alternative to these minor requirements, students may select a concurrent major within one of the following departments: Political Science, Psychology, or Sociology. If this alternative is chosen, credit hours used to fulfill the requirements in the concurrent major may be counted twice with those used to fulfill the requirements for a major in law enforcement. The courses selected to complete the minor requirements or the concurrent major requirements should be chosen in consultation with the adviser and with the chairman of the chosen minor or concurrent major department.

Requirements for a Minor in Law Enforcement

For a student minoring in law enforcement, 20 hours of study distributed as follows are recommended:

Required Courses:

Law Enf. 101, 102, 301, 302

Elective Courses:

Law Enf. 501, 502

Pol. Sci. 330, 361

Health 121, 460

Sociol. 380, 383, 386

Courses

101. **Introduction to Law Enforcement.** (3:3:0) F.S.-(m) Fletcher, Nielsen
The role of law enforcement; basic procedures and problems; development of professional attitudes and ethics; organization and jurisdiction of local, state, and federal agencies.
102. **Patrol and Related Police Operations.** (3:3:0) F.S. (m) Prerequisite: Law Enf. 101. Lunnen
Fundamental law enforcement techniques; basic patrol procedures; preliminary criminal investigations; identification and description; protective weapons and restraining devices.
301. **Criminal Procedure and Evidence.** (3:3:0) F.S. (m) Prerequisite: Law Enf. 101. Fletcher
Basic procedures in the administration of criminal justice; laws and rules of evidence.
302. **Advanced Criminal Investigation.** (3:3:0) F.S. (m) Prerequisite: Law Enf. 101. Fletcher
Advanced principles of criminal investigation; major case procedures and specialization; introduction to criminalistics and scientific aids; sources of information, records, informants, and modus operandi system.
501. **Special Problems in Criminal Law.** (2:2:0) F.S. (m) Prerequisites: Law Enf. 301; Pol. Sci. 110. Recommended: Pol. Sci. 361. Jeffs
An examination of problems confronting the law enforcement officer relating to the current status of constitutional doctrine as a series of controls on law enforcement procedures.
502. **Law Enforcement Organization and Administration.** (2:2:0) F.S. (m) Prerequisites: Pol. Sci. 330; Law Enf. 301. Nielsen
Organization and management of line and staff operations of law enforcement agencies; professionalization, ethics, and press and public relations.

Library and Information Sciences

—Graduate Department of

Associate Professors: H. T. Johnson (director, 548 JRCL), Knight (assistant director, 548 JRCL), Thorne.

Assistant Professors: Marchant, Purdy, Wright.

Instructor: Lamson.



The undergraduate library science program provides a minor for students wishing to become endorsed or certified for school libraries or instructional media centers. It meets Utah requirements for a minor in instructional media with library science emphasis.

A minor requires 16 hours of selected courses including LIS 413, 423, 429, 539, 557; Ed. 406; and electives from the following: LIS 569; Ed. 340; Engl. 420; Hum. 101, 201, 202; Speech and Dram. Arts 527. If Ed. 406 is taken to meet other requirements, an elective should be substituted. Electives should be appropriate to the area of specialization, e.g., Ed. 340 for elementary endorsement.

For official teacher endorsement requirements, see Education section of this catalog.

Graduate Programs

The graduate programs offered by the Graduate Department of Library and Information Sciences provide professional training for the student wishing to obtain a Master of Library Science degree. Emphasis is upon a general preparation, but the large number of elective courses allows specialization in one of the following fields:

- The public library
- The academic library
- The school library (IMC)
- The scientific and technical library
- The genealogical research library
- Information science

Elements of these specialties appear throughout the entire curriculum in order to acquaint all students with the different aspects of librarianship. However, special courses require a student to specialize in one or more of the above and to choose work with children, young people, or adults.

Admission to the program is through the Graduate School. Graduation from an acceptable undergraduate program and a grade-point average of "B" (3.00) for the last two years of academic work are required.

The applicant must have taken the Graduate Record Examination Aptitude test and must submit the results with the application forms. A personal interview is desired and may be required. Evidence of English proficiency may also be required. In some instances, special courses may have to be taken. Foreign students must submit the results of the TOEFL or USIS language examination with their application.

Also, a reading knowledge of one modern foreign language is normally required, to be completed no later than the semester before graduation is applied for. The native language of foreign students is not acceptable. Students who have not completed this requirement before entry into the program may apply for one of three options in lieu of a language. If an option is approved, no more

than 6 hours of the option can be applied on the degree. These options are as follows:

Communication and Audio-Visual: Commun. 535; Ed. 406, 609, 610, and 611.

Computer Science: Comput. Sci. 230, 331, 333; and LIS 654.

Statistics: 12 hours of statistics or Stat. 501 and 502.

The language requirement can be fulfilled in the following ways:

1. By competing 12 semester hours.
2. By completing German, French, or Spanish 201.
3. By completing the 95-96 series in German, French, or Spanish.
4. By passing the Education Testing Service examination.

The course work required for the specialties is below. In general, these requirements will be followed, but some substitutions may be made in order to fit individual requirements. If a student desires a substitution, permission must be obtained from his adviser before the substitute course is taken.

The Public Library. (36 hours) LIS 401, 413, 423, 527, 533, 539; two of LIS 543, 545, and 547; LIS 551; Ed. 340; LIS 569 or 579; 642 or 644, and 697. Electives to total no less than 36 semester hours will be chosen in consultation with the student's adviser.

The Academic Library. (38 hours) LIS 401, 413, 423, 527, 533, 539; two of LIS 543, 545, and 547; LIS 553, 579, 628, 642, 644, and 697. Electives to total no less than 38 semester hours will be chosen in consultation with the student's adviser.

The School Library. (36 hours) LIS 401, 413, 423, 429, 533, 539; two of LIS 543, 545, and 547; LIS 557; Ed. 340 or LIS 569; LIS 642, 697; Ed. 406. Electives to total no less than 36 semester hours will be chosen in consultation with the student's adviser.

The Scientific and Technical Library. (38 hours) LIS 401, 413, 423, 527, 533, 539, 547, 555, 624, 642 or 644, 697; and Comput. Sci. 331 or 333. Electives to total no less than 38 semester hours will be chosen in consultation with the student's adviser.

The Genealogical Research Library. (36 hours) Experience or course work to equal an undergraduate minor in genealogical research; LIS 401, 413, 423, 527, 533, 539; two of LIS 543, 545, and 547; LIS 559, 579, 624, 642 or 644, and 697. Electives to total no less than 36 semester hours will be chosen in consultation with the student's adviser.

Information Science. (41 hours) LIS 401, 423, 527, 533, 539, 547, 551, 553 or 555, 579, 644, 697; and Comput. Sci. 333, 351, and 451.

A student is expected to choose at least one specialty early in his graduate work, but in no case later than the completion of 16 hours. The specialty is chosen in consultation with the director, and a complete course outline is prepared. Copies of this outline remain with the department, the Graduate School, and the student and, unless changed with departmental approval, constitute the mandatory program for the student. Later changes usually penalize the student by requiring additional courses. Depending upon the specialty chosen, 36 to 41 graduate semester hours of credit are required to graduate.

Candidates are expected to maintain a grade-point average of "B." No thesis is required, but a comprehensive research project is to be completed by each student. Also a comprehensive final examination is required of all students before graduation. In two parts, written and oral, it covers both the area of general preparation and the area of specialization.

In addition to course work, attendance at a number of informal lectures without credit is required each semester of all students. These colloquia are intended to broaden the student's outlook on librarianship and related fields by presenting outstanding guest lecturers.

Courses

- 111. Use of Books and Libraries.** (1:2:0 for $\frac{1}{2}$ term) F.S.Su.
Efficient use of library materials; card catalog, use of general reference books (bibliographies, dictionaries, encyclopedias, and indexes); and making of bibliographies.
- ☐ **Humanities 201. The Arts in Western Culture: Age of Greece to Early Renaissance.** (3:3:0)
- ☐ **Humanities 202. The Arts in Western Culture: Late Renaissance to the Modern Age.** (3:3:0)
- ☐ **Computer Science 331. Computer Programming Language I (FORTRAN).** (3:3:2)
- ☐ **Computer Science 333. Computer Programming Language II (COBOL).** (3:3:2)
- ☐ **Education 340. Children's Literature.** (2:2:0)
- ☐ **Computer Science 351. Information Structure.** (3:3:1)
- 401. Foundations of Library and Information Sciences.** (3:3:0) F.Su. Knight
The basic principles and concepts underlying library and information sciences. Types of libraries, objectives, general organization. Required. To be taken first semester.
- ☐ **Education 406. Introduction to Production and Utilization of Instructional Media.** (2:2:1)
- 413. Selection and Acquisition of Materials.** (3:3:0) F.S.Su. Knight, Purdy
Principles, criteria, and practice in evaluation, selection, and acquisition of book and nonbook materials. Required.
- ☐ **English 420. Literature for Adolescents.** (2:2:0)
- 423. Reference Theory and Service.** (3:3:0) F.S.Su. Knight, Marchant, Purdy
Intensive study of basic reference materials and services, including general bibliographic tools and form. Required.
- 429. Organizing Materials in the School Library—Media Center.** (3:3:0) F.S.Su. Thorne
Classification and cataloging of materials in the instructional media center. Laboratory practice. Required of school library majors.
- ☐ **Computer Science 451. Information Systems Analysis.** (3:3:2)
- ☐ **Statistics 501. Statistics for Research Workers I.** (5:4:3)
- ☐ **Statistics 502. Statistics for Research Workers II.** (5:4:3)
- 527. Organization and Processing of Materials.** (3:3:0) F.S.Su. Lamson, Wright
Theory and principle of the documentation of book and nonbook materials as expressed through classification and cataloging. Laboratory practice. Required. School library majors should substitute LIS 429.
- ☐ **Speech and Dramatic Arts 527. Storytelling.** (2:2:0)
- 533. Library Organization and Administration.** (3:3:0) F. Prerequisite: LIS 401. Johnson, Marchant
Organization and administration of libraries. Organizational and administrative theory discussed. Problems associated with personnel, authority, policy, planning, reports, standards, etc. Required.
- ☐ **Communications 535. Public Relations.** (3:3:0)
- 539. Practicum in Librarianship.** (1:1:0) F.S.Su. Prerequisites: completion of or concurrent registration in LIS 401, 413, 423, and 429 or 527. Knight, Thorne
Thirty hours of practice work under the supervision of a professional librarian. Required.

- 543. Literature of the Social Sciences.** (3:3:0) F. Purdy, Wright
Analysis of subject concerns, methodology, and unique information needs of the various social science fields. Examination of literature resources and problems of bibliographic control.
- 545. Literature of the Humanities.** (3:3:0) F.Su. Purdy, Wright
Analysis of the subject concerns, methodology, and unique information needs of the various humanities fields. Examination of literature resources and problems of bibliographic control.
- 547. Literature of the Sciences.** (3:3:0) S.Su. Johnson, Lamson
Analysis of subject concerns, methodology, and unique information needs of the various fields of science. Examination of literature resources and problems of bibliographic control.
- 551. The Public Library.** (2:2:0) S.Su. Prerequisite: LIS 553. Marchant
Special problems in the public library. Strata of services, patterns of readers, special materials, organization, administration, standards, and public relations.
- 553. The Academic Library.** (2:2:0) S.Su. Prerequisite: LIS 533. Marchant, Nelson
Special problems in college, university, and associated research libraries. Collection, staffing, users, organization, administration, and public relations.
- 555. Scientific and Technical Libraries.** (2:2:0) S.Su. Prerequisite: LIS 533. Johnson
Special problems in scientific and technical libraries. Staffing, users, organization, administration, public relations, and handling of nonbook materials.
- 557. The Instructional Media Center in the School.** (2:2:0) F.Su. Prerequisite: LIS 533. Knight, Thorne
The place of the IMC in the educational program. Standards, management, equipment, budget, and services.
- 559. The Genealogical Research Library.** (2:2:0) F.Su. Prerequisite: LIS 533. Schmidt
Special problems in the administration of the genealogical research library.
- 569. Reading Guidance for Young People.** (2:2:0) F.Su. A. Jensen, Thorne
A critical study of the reading interests and needs of young people. Problems of the reluctant and the avid reader. Extensive examination, discussion, and reading of books.
- ☐ **Psychology 570. Computer Use in Behavioral Sciences.** (3:3:6)
- 579. Patterns and Problems of Adult Readers.** (2:2:0) F.Su. Purdy
Reading interests and habits of adults, survey of studies, materials for various types of readers, reader guidance, reader's advisory service, role of the library in adult education.
- 580R. Workshop: Current and Special Problems.** (1-2:1-2 weeks:40-50 hrs. per week ea.)
- 592. Organizing Nonprint Materials in the School Library—Media Center.** (2:2:0) S.Su. Prerequisite: LIS 429. Thorne
The organization and utilization of such materials as pictures, maps, tapes, recordings, film strips, etc.
- ☐ **Education 609. Selection and Utilization of Audio-Visual Materials.** (2:2:0)
- ☐ **Education 610. Designing and Producing Instructional Materials.** (2:2:1)
- ☐ **Education 611. Administering Instructional Media.** (2:2:0)
- 614. Literature of Mormonism.** (2:2:0) F.Su. Purdy
An intensive survey of the literature of Mormonism, with emphasis upon the selection, organization, and utilization of this literature in libraries.

- 624. Government Publications.** (2:2:0) F.Su. Jordan, Lamson
Intensive study of documents published by federal, state, and local governments and the U.N., with attention to their selection, organization, and use in different types of libraries.
- 628. History of Written Communication.** (3:3:0) F.Su. Purdy, Wright
Historical development of written communication and its interrelationships with the library in the context of the evolving social and cultural setting.
- **Education 628. Children's Literature.** (2:2:0)
- 642. Seminar: Advanced Reference and Bibliography.** (3:3:0) S.Su. Knight
Types of bibliography, advanced bibliographic techniques, administering reference services, analysis of research problems. The librarian-user interface.
- 644. Seminar: Advanced Cataloging and Classification.** (3:3:0) S.Su. Lamson, Wright
Examination of philosophical bases of classification and cataloging schemes. Extension of general descriptive cataloging, classification, and subject headings, and use of unabridged Dewey and L.C.
- 654. Seminar: Data Processing in Library and Information Sciences.** (3:3:0) S.
Survey of nonconventional and experimental methods and devices for cataloging, classifying, indexing, and retrieving; the use of data processing in all areas of librarianship.
- 662. Development of Libraries and Library Materials for Children.** (3:3:0) Pre-requisite: Ed. 340. S. Thorne
Historical development of children's libraries, materials, and services. Publishers, illustrators, and authors are considered. Relationship to sociological, educational, and philosophical forces of various periods discussed.
- 664. Seminar: Philosophical Bases of Library and Information Sciences.** (2:2:0) S. Johnson
The social, ethical, logical, and epistemological bases of library and information sciences.
- 694R. Independent Research.** (1-2:Arr.:0 ea.) F.S.Su.
- 697. Research in Library and Information Sciences.** (3:3:0) S.Su. Johnson, Lamson
The bases, methods, and techniques of research. Experience in manipulating data. Statistical computer programs will be used, and a research project will be completed under individual advisement. Required.

Linguistics



Associate Professor: R. W. Blair (coordinator,
239 McK).

Assistant Professors: R. L. Baird, Lytle.

The linguistics program is a graduate program leading to an M.A. degree in theoretical or applied linguistics. It is designed to provide specialized training in modern linguistics, with emphasis either on the description of linguistic structure *per se* (theoretical linguistics) or on language teaching and learning problems (applied linguistics). In applied linguistics, the graduate linguistics program, in cooperation with the English Department, offers specialized training in the teaching of English as a foreign language.

For a description of requirements for an M.A. in linguistics or applied linguistics, see the Graduate School Catalog.

On the undergraduate level, although no baccalaureate degree is offered yet, there is a broad range of courses in the English and language departments as well as in the linguistics program. Certain of these are prerequisites to graduate work in linguistics. For an undergraduate minor in linguistics, 14 hours of linguistics are required, as approved by the department.

Courses

101A,B,C, 102A,B,C, etc. Linguistic Study of a Non-European Language (two semesters). (4:3:2 ea.) F.S.

A systematic study of the grammatical system of a non-European language. Native-informant lab required.

325. Introduction to Descriptive Linguistics. (3:3:0) F.S.Su. Baird

An introduction to the scientific study of language for students in foreign languages, English, and anthropology. Includes the nature and description of language, its sounds and grammar.

326. Introduction to Historical and Comparative Linguistics. (3:3:0) F.S. Lytle

An introduction to the historical and comparative study of language for students in foreign languages, English, and anthropology.

360. Practical Phonetics. (2:2:0) F.S. Lytle

Elementary principles of speech mechanics.

423. Linguistics and Language Learning. (2:2:0) F.S. Blair

The application of linguistic science to problems in language learning. An introduction to contrastive linguistics.

493. Readings in Linguistics. (1-3:0:Arr.) F.S.

525. Descriptive Phonology. (3:3:0) F.

The structural description of the sound systems of language.

527. Descriptive Morphology. (3:3:0) S.

The structural description of linguistic forms.

528. Syntax. (3:3:0) S. Prerequisite: Ling. 527.

Fundamental approach to generative grammar. Techniques of analysis of linguistic data and preparation of grammatical statements through ordered rules.

529R. Linguistic Structures. (3:3:1 ea.) F.S.

A consideration and comparison of the phonological and morphological structures of several non-Indo-European languages. Students will work with native informants.

623. Problems in Contrastive Linguistics. (3:3:0) F.S.

Blair

Contrast of structures in English and selected languages and the development of grammatical description from these contrasts.

626. Problems in Historical Linguistics. (3:3:0)

693. Seminar in Linguistics. (2:2:0) S.

Discussion of selected topics in linguistics.

699. Thesis for Master's Degree. (1-6:Arr.:0) F.S.Su.



Coed using individual language study facilities in the McKay Building

Instructors: Chatterly, Clark, Garbe, Gustofson,
Hurd, Mouritsen, Russell, White, Wynn.

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ed by the Mathematics Department. In this program, he is required to complete with a grade of "C-" or better

- (1) Math. 112, 113, and 214; or 141, 142, 243, and 244 or the equivalent.
- (2) Math. 301, 302, 371, and 451.
- (3) A minimum of nine semester hours selected from the following: Math. 210, 300, 332, 372, 385, 387, 411, 412, 434, 452, 541, 542, 551, 552.
- (4) A teaching minor described in the Education section of this catalog.

In order to obtain the B.A. degree in mathematics education, a student must complete teacher certification requirements as outlined by the Education Department.

Suggested Program: The following program is given as a guide in planning for those who wish to major in mathematics education.

Freshman Year		F	S			
Math. 112, 113				Hist. 170		3
(or 141, 142)	4	4		P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Engl.	3	3		Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Relig. 121, 122	2	2		Electives	6	5
Health 130	2				<hr/>	<hr/>
					18	18

If a student has not had adequate preparation in mathematics to permit him to begin his college work at the level of analytic geometry and calculus, he should substitute the necessary prerequisite courses for Math. 112 in the above program. However, he should realize that, as a consequence, additional time will probably be required to complete all the requirements for graduation.

Undergraduate Minors

A student who majors in mathematics is not normally required to have a minor but should work closely with an adviser to plan a program of elective courses which meets his own educational objectives. A student who majors in mathematics education, however, is required to have a teaching minor and should consult the Education section of this catalog.

A student who wishes to minor in mathematics must complete with a grade of "C-" or better

- (1) Either of the sequences Math. 141, 142, 243; or Math. 112, 113, 214; and
- (2) A minimum of 9 additional credit hours in courses selected from those in the listing below:
Math. 244, 300, 332, 371, 372, 387, 411, 412, 434, 436, 451, 452, 508, 541, 542, 551, 552.

Graduate Degrees

The Department of Mathematics offers courses leading to the degrees of Master of Science in mathematics and Master of Arts in mathematics education. Complete details are available in the Graduate School Catalog.

Courses

51. Plane Geometry. (0:3:0) F.S.

Equivalent to high school plane geometry. Required of all students majoring in the College of Physical and Engineering Sciences. Also offered by correspondence.

90. Algebra. (0:3:0) F.S.Su.

Equivalent to first-year high school algebra.

97. Mathematical Review. (0:3:0) F.S.Su. Prerequisite: Math. 111.

Review of mathematics through calculus, for returning missionaries and others. Offered on the block plan. Concurrent registration in a credit course is allowed.

- 101. Intermediate Algebra.** (3:5:0) F.S.Su. Prerequisites: 1 year of high school algebra (or Math. 90) and 1 year of plane geometry (or Math. 51).
This course may NOT be used in filling the mathematics, statistics, and logic requirement.
- 105. College Algebra.** (3:4:0) F.S.Su. Prerequisite: Math. 101 or equivalent.
Parallels part of Math. 111 at slower pace. Only one of the three courses 105, 108, 111 may be taken for credit.*
- 106. Trigonometry.** (3:3:0) F.S.Su. Prerequisite: Math. 105 or equivalent.
Parallels part of Math. 111 at slower pace. Only one of the two courses 106, 111 may be taken for credit.*
- 108. Basic Analysis.** (4:4:1) F.S.Su. Prerequisite: Math. 101 or equivalent.
Mathematical method, the real number system, college algebra, and trigonometry. Primarily for students in the College of Business. Only one of the three courses 105, 108, 111 may be taken for credit.*
- 109. Introduction to Calculus.** (4:4:1) F.S.Su. Prerequisites: Math. 105 or 108 and 106 or 111 or equivalent.
Introduction to plane analytic geometry and one-dimensional calculus. Primarily for students in the Colleges of Biological Sciences and Business. Only one of the three courses 109, 112, 141 may be taken for credit.*
- 111. College Algebra and Trigonometry.** (5:6:0) F.S.Su. Prerequisites: two years of high school algebra and one year of plane geometry or Math. 101.
- 112, 113. Analytic Geometry and Calculus I, II.** (4:4:0 ea.) F.S.Su. Prerequisite: Math. 111 or equivalent (2½ years high school algebra, 1 year high school geometry and ½ year high school trigonometry).
Plane analytic geometry, differential and integral calculus with applications—an integrated course. Only one of the sequences 112, 113, 214, or 141, 142 may be taken for credit.*
- 121, 122. Technical Mathematics.** (3:2:3 ea.) F.S. Prerequisite: Math. 101 or equivalent.
College algebra, trigonometry, analytical geometry, and an introduction to calculus. Problems and practical application. Technical Institute students only.
- 141, 142. Introduction to Calculus and Analysis.** (4:4:0 ea.) F.S.Su. Prerequisites: 2½ years high school algebra, 1 year high school geometry, ½ year high school trigonometry; or Math. 111, or equivalent.
Plane analytic geometry and one-dimensional calculus with applications.
- 205. Structure of Mathematics.** (3:3:0) F.S.
Consideration of the structure and meaning of mathematics. For honor students who are taking no other mathematics courses.
- 210. Introduction to Mathematical Logic.** (3:3:0) F.S. Prerequisites: Math. 105 or 111.
Traditional logic, Boolean algebra with applications, algorithms, Turing machines, errors, quadrature, interpolation, and systems of linear equations.
- 214. Analytic Geometry and Calculus III.** (3:3:0) F.S.Su. Prerequisite: Math. 113.
Plane analytic geometry, differential and integral calculus with applications—an integrated course. Continuation of Math. 112 and 113. Only one of the sequences 112, 113, 214, or 141, 142 may be taken for credit.*
- 223. Technical Mathematics.** (3:3:0) F.S. Prerequisite: Math. 122.
Continuation of Math. 122. Analytic geometry and calculus. For Technical Institute students.

*If more than one of the alternatives are successfully completed, credit will be given for that alternative with the highest course number; e.g., if both 105 and 108 are taken, credit will be given only for 108 regardless of which is taken first. A failing grade in any course may be removed only by repeating that course.

224. **Numerical Methods in Technology.** (3:3:0) S. Prerequisites: Math. 223 and Comput. Sci. 331 or equivalent.
Applications of matrix algebra, vector analysis, curve fitting, differences, differential equations, numerical integration, systems of linear equations, linear programming, and solution of nonlinear equations. For Technical Institute students.
- 243, 244. **Intermediate Calculus and Analysis.** (3:3:0 ea.) F.S.Su. Prerequisite: Math. 142 or consent of department.
Solid analytic geometry and multidimensional calculus.
- 291, 292. **Honors Seminar in Mathematics.** (1:1:0 ea.) F.S.
Special seminar in structure of mathematics. For freshman and sophomore students in the University Honors Program who are majoring in mathematics. Open to other interested students.
300. **History of Mathematics.** (3:3:0) F.Su. Prerequisite: Math. 112 or 301.
The development of mathematics, with emphasis on the underlying principles and motivations.
301. **Foundations of Algebra.** (3:3:0) F.S.Su. Prerequisite: Math. 111 or 305.
Sets, logic, basic number systems; required of prospective secondary teachers.
302. **Foundations of Geometry.** (3:3:0) F.S.Su. Prerequisite: Math. 112, 141, or 301.
A critical analysis of the logical structure and content of Euclidean geometry, and an introduction to non-Euclidean geometries; required of prospective secondary teachers.
305. **Basic Concepts of Mathematics.** (3:3:0) F.S.Su.
Designed to develop understanding of the basic structure of mathematics. This course is required of and restricted to prospective elementary school teachers.
306. **Concepts of Mathematics.** (3:3:0) F.S. Prerequisite: Math. 305.
Study of modular arithmetic, real numbers, complex numbers, relations and functions, measurement, informal geometry. For elementary teachers.
321. **Applied Ordinary Differential Equations.** (3:3:0) F.S.Su. Prerequisite: Math. 214.
Ordinary differential equations with applications, Fourier series, Laplace transforms. Not open to mathematics majors.
322. **Topics in Applied Mathematics.** (3:3:0) F.S.Su. Prerequisite: Math. 214.
An introduction to the theory of analytic functions of a complex variable, and vector, matrix, and numerical analysis. Not open to mathematics majors.
323. **Applied Partial Differential Equations.** (3:3:0) F.S. Prerequisite: Math. 321.
Boundary value problems with applications, separation of variables method, Bessel functions, Legendre polynomials. Not open to mathematics majors.
332. **Introduction to Complex Analysis.** (3:3:0) F.S.Su. Prerequisite: Math. 214 or 244.
Complex algebra, analytic functions, integration in the complex plane, infinite series, theory of residues, conformal mapping.
- 371, 372. **Abstract Algebra.** (3:3:0 ea.) F.S.Su. Prerequisites: Math. 142, 214, or 301.
Preliminary examination of algebraic systems: groups, rings, fields, vector spaces, linear transformations, matrices, etc.

- 385. Linear Algebra** (3:3:0) F.S.Su. Prerequisite: Math. 111.
Vectors and matrices, linear equations, determinants, characteristic values, linear operators, quadratic forms, etc.
- 387. Theory of Numbers.** (3:3:0) F. Prerequisite: Math. 142 or 214.
Foundations of number theory, congruences, residues, reciprocity law, Diophantine equations.
- 411. Numerical Methods.** (3:3:0) F.S. Prerequisites: Comput. Sci. 331; Math. 244 or 321. Recommended: Math. 322 or 372 or 385.
Interpolation, approximation, differentiation, integration, ordinary differential equations, and systems of equations, linear and nonlinear.
- 412. Introduction to Numerical Analysis.** (3:3:0) S. Prerequisite: Math. 411.
Theory of constructive methods in mathematical analysis.
- 434. Introduction to Ordinary Differential Equations.** (3:3:0) F.S.Su. Prerequisite: Math. 244 or 321.
An introductory course in the theory of ordinary differential equations.
- 436. Introduction to Partial Differential Equations.** (3:3:0) S. Prerequisite: Math. 434 or consent of instructor.
Methods for finding solutions to basic equations. Discussion of uniqueness, existence, and stability with respect to data.
- 451. Modern Geometry I.** (3:3:0) F.S. Prerequisite: Math. 372.
Synthetic and analytic projective geometry, including relationships with affine and Euclidean geometry. Geometry considered as the study of invariants of groups of transformations.
- 452. Modern Geometry II.** (3:3:0) S. Prerequisite: Math. 451.
A continuation of Math. 451, including a relationship to linear algebra, supplemental design, and combinatorial mathematics.
- 495. Special Readings in Mathematics.** (1-2:0:1-3) (Offered on demand) Prerequisite: consent of instructor.
Special directed reading in work beyond the scope of usual undergraduate courses.
- 501, 502. Foundations of Mathematical Thought.** (3:3:0 ea.) F.S.
Analysis of the axiomatic method, set theory, the axiom of choice, and mathematics as an extension of logic, paradoxes, intuitionism, and formalism. For majors in mathematics education.
- 508. Mathematical Logic.** (3:3:0) S. Prerequisite: Math. 371 or 541.
Propositional and first-order predicate calculi. Axiomatic set theory, well-ordering, transfinite induction.
- 513R. Advanced Topics in Applied Mathematics.** (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.
Specialized topics selected from integral equations. Boolean algebra, information theory, group representations, calculus of variations, etc., varied from time to time.
- 541, 542. Introduction to Real Analysis.** (3:3:0 ea.) F.S. Prerequisite: Math. 214 or 244.
Includes a rigorous treatment of continuity, differentiability, and Riemann integration of functions of one and several real variables and a development of infinite series.
- 551, 552. Introduction to Topology.** (3:3:0 ea.) F.S. Prerequisite: credit or concurrent registration in Math. 541.
Axiomatic treatment of linearly order spaces, metric spaces, Arc and Jordan curve, types of connectedness.

- 585. Matrix Analysis.** (3:3:0) (Offered on demand) Prerequisite: Math. 322 or 372.
An introduction to matrix analysis, including the study of characteristic values, canonical forms, and functions of matrices, with applications.
- 629. Teaching Mathematics in Secondary Schools.** (2:2:0) (Offered on demand)
- 631, 632. Complex Analysis.** (3:3:0 ea.) (Offered 1970-71 and alternate years) Prerequisites: Math. 332, 542.
- 634, 635. Theory of Ordinary Differential Equations.** (3:3:0 ea.) (Offered 1971-72 and alternate years) Prerequisite: Math. 434 and 542.
- 641, 642. Functions of a Real Variable.** (3:3:0 ea.) (Offered 1971-72 and alternate years) Prerequisite: Math. 542.
- 643R. Special Topics in Analysis.** (3:3:0 ea.) F.S.Su. Prerequisites: Math. 631, 632; or 641, 642.
- 645. Tensor Analysis.** (3:3:0) (Offered on demand) Prerequisite: Math. 244 or 542.
- 646. Differential Geometry.** (3:3:0) (Offered on demand) Prerequisite: Math. 645.
- 647, 648. Theory of Partial Differential Equations.** (3:3:0 ea.) (Offered 1970-71 and alternate years) Prerequisites: Math. 436 and 542.
- 651, 652. General Topology I, II.** (3:3:0 ea.) Prerequisite: consent of instructor.
- 653R. Special Topics in Geometry.** (3:3:0 ea.) F.S.Su. Prerequisite: Math. 452.
- 655R. Advanced Special Topics in Topology.** (3:3:0) (Offered on demand) Prerequisite: consent of instructor.
- 661, 662. Functional Analysis.** (3:3:0 ea.) (Offered on demand) Prerequisite: consent of instructor.
- 671, 672. Modern Algebra.** (3:3:0 ea.) (Offered 1971-72 and alternate years) Prerequisites: Math. 371 and 372.
- 675R. Special Topics in Algebra.** (3:3:0 ea.) F.S.Su. Prerequisites: Math. 671, 672; or Math. 681, 682.
- 681, 682. Linear Algebra.** (3:3:0 ea.) (Offered 1970-71 and alternate years) Prerequisites: Math. 371, 372.
- 695. Readings in Mathematics.** (1-2:1-2:0) (Offered on demand)
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

Mechanical Engineering Science

(Including Aeronautical and Astronautical Engineering)



Professors: Cannon, Polve, Simonsen (chairman, 223 ELB), Ulrich.

Associate Professors: Free, Heaton, Paxson, Warner, Wille.

Assistant Professor: Chase.

Instructor: Smith.

The Mechanical Engineering Science Department offers a professional program leading to the degrees of Bachelor of Science, Bachelor of Engineering Science, Master of Science, and Doctor of Philosophy. The curriculum is accredited by the Engineers' Council for Professional Development (ECPD) as a professional engineering curriculum. The courses in the professional curriculum are taught on a rigorous scientific level made possible by the preprofessional emphasis on mathematics, physics, and chemistry. The student is also provided with a well-balanced program of social studies, religion, biological science, and humanities. Students completing this professional program are educationally prepared for and encouraged to become licensed professional engineers. **Students who desire technical training as technicians rather than as engineers should consult the offerings of the College of Industrial and Technical Education including the Technical Institute.**

Advanced classroom and laboratory course work offered in such areas as heat transfer, fluid mechanics, thermodynamics, automatic control, kinematics, stress analysis, machine design, and materials science provide the necessary background for work in the newer, advanced fields such as control, propulsion, and structural design of aircraft, rockets, space vehicles, watercraft, etc. These same basic engineering techniques are also developed to handle the more everyday needs of our modern society, including automated manufacturing, automobiles, home appliances, etc. Training is provided for mechanical engineers working in the fabrication of metals and plastics, flow of liquids and gases, burning of fuel, mechanisms, or transfer of heat.

The graduate program in mechanical engineering is listed along with the undergraduate program because of the great emphasis in recent years on graduate-level preparation for the professional engineer. Brigham Young University joins educational and industrial leaders in promoting graduate work in mechanical engineering. Research and advanced study are provided at the forefront of many new and exciting areas.

The fundamental courses in mechanical engineering form the education for many specialized occupational titles. These specialized programs are sometimes listed under separate headings such as aeronautical engineering, manufacturing engineering, aerospace engineering, industrial engineering, rocket engineering, etc. The student, in consultation with his adviser, may formulate other programs to meet educational goals.

The extensive background of the faculty, combined with modern laboratories and precision scientific equipment, is valuable to those who wish to undertake special projects in their undergraduate work. Qualified students in the professional school may gain experience by assisting graduate students and faculty on research projects underway in the department. Seminar work and participation in technical meetings sponsored by the student section of the American Society of Mechanical Engineers provide a rich career background.

Entrance Requirements

The entrance requirements of the University as outlined elsewhere in this catalog apply to mechanical engineering as well. Special recommendations for engineering students are contained in the section on the College of Physical and Engineering Sciences. A well-qualified student with proper high school preparation can complete the Bachelor of Science (BES) program in four calendar years. The Master of Science (M.S.) or Master of Engineering (M.Engr.) program may be completed in five calendar years. The degree is awarded for the competence level rather than for the number of years of attendance. Therefore, beginning students with inadequate high school preparation will require additional time to complete the degree requirements. See the section on the College of Physical and Engineering Sciences for further details.

Grade Requirements

To receive a bachelor's degree in mechanical engineering science, a student must complete courses satisfying general education and departmental requirements with a cumulative grade-point average of 2.0 (C) minimum. A maximum of 9 hours of "D" is allowed in fulfilling departmental requirements.

Periodically, the progress and level of achievement of each student will be reviewed to establish his ability to continue in the mechanical engineering program.

The graduate school requirements, i.e., 3.0 average in graduate courses, must be met to receive the Master of Engineering degree. A grade-point average of 2.5 in the last 60 hours of course work prior to taking graduate-level courses is required to qualify for the Master of Engineering program.

Suggested Course Sequence

The outline shown below is suggested for the student with adequate preparation to enter the **Master of Engineering program**. Those with better-than-average high school background can accelerate the program, while those requiring remedial work may require a different pacing. The program for the **Bachelor of Science degree** is nearly identical for the first three years and has many similarities into the fourth year, so the students should pursue the outline for at least the first two years. Specific changes in requirements which differentiate the Bachelor of Science degree are

- Math. 322, 323; M.E. 534, 540, and 510; and either E.E. 302 and 303 or E.E. 304 and 305 are made electives.
- M.E. 571 and the general education requirements of the fifth year are moved to the fourth year.
- The student has nine hours of technical electives in the fourth year.

Other changes in the requirements are possible in the program to meet the educational goals of the individual student. Consultation with the student's adviser will establish the specific requirements for each student.

First Year			Second Year		
	F	S		F	S
M.E. 101, 151	2	2	M.E. 351		3
C.E. 102		2	C.E. 201		2
Math. 112, 113	4	4	Chem. 105, 106	4	4
Physics 121, 122	3	3	M.E. 201	2	
Engl. 111, 112	3	3	Physics 221	3	
Health 130	2		Physics 214	1	
P.E. $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	Math. 214, 321	3	3
Relig. 121, 122	2	2	P.E. $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Dev. assy $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	Stat. 332		2
			Relig.	2	2
			Dev. assy. $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
	17	17		16	17

Third Year					
	F	S			
M.E. 321, 322	3	3	M.E. 465, 466	1	1
M.E. 363, 364	2	1	E.E. 302, 303, 304, 305	3	3
C.E. 303, 304	3	3	Math. 323		3
E.E. 301		2	Groups; relig.	3	
Math.		3	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Groups; relig.	6	5		<hr/>	<hr/>
Engl. 316	3			16 $\frac{1}{2}$	16 $\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$			
	<hr/>	<hr/>			
	17 $\frac{1}{2}$	17 $\frac{1}{2}$	Fifth Year		
Fourth Year				F	S
	F	S	M.E. 571, 698	2	3
M.E. 412, 510	3	3	C.E. 571	3	
M.E. 431, 540	3	3	Tech. electives	6	9
M.E. 534, 454	3	3	Groups; relig.	5	3
				<hr/>	<hr/>
				16	15

Specialization Electives

The following are suggested as possible courses for the student who desires to align himself to a particular specialty of mechanical engineering. The list is not all inclusive. The student may choose a plan which meets his individual educational goals after consultation with his adviser.

Aeronautical

M.E. 511	M.E. 585
M.E. 512	Physics 521
M.E. 515	Physics 522
M.E. 533	Physics 536
M.E. 541	Physics 537

Applied Mechanics

M.E. 511	C.E. 501
M.E. 531	C.E. 502
M.E. 533	C.E. 503
M.E. 535	C.E. 507
M.E. 537	C.E. 527

Bioengineering

Zool. 261	Chem. 384
Zool. 262	Chem. 385
Zool. 465	Chem. 581
P.E. 341	Chem. 584
P.E. 344	M.E. 512
P.E. 645	M.E. 531
Chem. 351	M.E. 541
Chem. 352	

Industrial and Manufacturing

Bus. Mgt. 321	Bus. Mgt. 421
Bus. Mgt. 361	Bus. Mgt. 468
Bus. Mgt. 458	Indus. Tech. 332
Bus. Mgt. 461	Indus. Tech. 430
Bus. Mgt. 462	Indus. Tech. 433
Bus. Mgt. 464	M.E. 554

Materials and Metallurgy

M.E. 552	Chem. 461
M.E. 554	Chem. 462
C.E. 501	Chem. 464
C.E. 502	Chem. 521
C.E. 507	Chem. 522

Mechanical Design

M.E. 531	C.E. 501
M.E. 533	C.E. 502
M.E. 535	C.E. 507
M.E. 537	Art 120
M.E. 552	Indus. Tech. 337

Nuclear

M.E. 511	Stat. 421, 422
M.E. 512	Stat. 501
M.E. 521	Chem. 564
M.E. 523	Physics 316
M.E. 531	Physics 551, 552
M.E. 541	Ch.E. 582, 682

Thermosciences

M.E. 511	M.E. 581
M.E. 512	M.E. 583
M.E. 521	M.E. 585
M.E. 522	Chem. 461, 462
M.E. 523	Chem. 464
M.E. 541	Ch.E. 478

*Prerequisites to these courses may fill general education requirements.

Courses

101. Introduction to Mechanical Engineering Systems. (2:1:3) F.

Introduction to the mechanical engineering profession through elementary design problems and basic computation techniques.

- 151. Introductory Metallurgy.** (2:1:3) F.S.
Nature of metals; metallurgical examination and testing; phase diagrams; metal production and heat treatment; foundry processes; forming and welding processes; powder metallurgy; and associated laboratories.
- 201. Introduction to System Design.** (2:1:3) F.S.
Synthesis and analysis of elementary engineering systems. The digital computer as a design tool. Emphasis on creative aspects of design through student projects.
- 301, 302. Elements of Thermodynamics, Fluid Mechanics, and Heat Transfer I, II.** (3:3:0) I F., II S. Prerequisites: M.E. 301—Physics 122; M.E. 302—M.E. 301, C.E. 304, and Math. 321.
First and second laws of thermodynamics; fluid statics; incompressible and compressible fluid flow; heat transfer by conduction, convection, and radiation, with applications to electrical equipment.
- 321, 322. Thermodynamics.** (3:3:0 ea.) F.S. Prerequisites: M.E. 321—Physics 122, concurrent registration in M.E. 363; M.E. 322—M.E. 321, concurrent registration in M.E. 364.
A first course in fundamentals of classical thermodynamics for mechanical engineering majors. Emphasis is on the macroscopic approach. Covers cycles as well as an introduction to combustion.
- 351. Principles of Applied Metallurgy.** (3:2:3) F. Prerequisite: Ch.E. 378.
Control of physical properties by strain, solution and precipitation hardening, recrystallization and multiphase alloying. Emphasis on quantitative properties predictions based upon microstructures.
- 363. Mechanical Engineering Instrumentation.** (2:1:3) F.S. Prerequisites: Stat. 332, Physics 221, and concurrent registration in M.E. 321.
An introduction to theory and application of static and dynamic measurements including displacement, acceleration, temperature, pressure, strain, high-speed photography, etc.
- 364. Mechanical Engineering Laboratory II.** (1:0:3) S. Prerequisites: M.E. 363, and concurrent registration in M.E. 321.
Experimental exercises to demonstrate principles of mechanical engineering. To reinforce classroom theory and demonstrate applications, the student performs and designs laboratory experiments assigned in M.E. 322.
- 412. Fluid Mechanics I.** (3:3:0) F. Prerequisites: Math. 321 and concurrent registration in M.E. 465.
A study of fluid statics, viscous flow; dimensional analysis; incompressible flow; compressible flow; fluid meters; lift and drag; dynamic similarity; momentum; potential theory; fluid machinery.
- 431. Kinematics.** (3:2:3) F. Prerequisites: C.E. 102, 304 and concurrent registration in M.E. 465.
Relative motion of links in mechanisms; velocities and accelerations of machine parts; rolling contact; cams; gearing; synthesis of mechanisms; includes computer-aided design techniques.
- 454. Analysis and Manufacture of Machine Components.** (3:2:3) S. Prerequisites: M.E. 431, C.E. 201.
Theory, design, and manufacture of machine components.
- 465. Mechanical Engineering Laboratory III.** (1:0:3) F. Prerequisites: concurrent registration in M.E. 412, 431, and 435.
Experimental exercises to demonstrate principles of mechanical engineering. To reinforce classroom theory and demonstrate applications, the student designs and performs laboratory experiments assigned in M.E. 413 and 441.

- 466. Mechanical Engineering Laboratory IV.** (1:0:3) S. Prerequisites: M.E. 465 and concurrent registration in M.E. 413 and 441.

Experimental exercises to demonstrate principles of mechanical engineering. To reinforce classroom theory and demonstrate applications, the student designs and performs laboratory experiments assigned in M.E. 413 and 441.

- ☐ **Civil Engineering Science 501. Advanced Mechanics of Materials I.*** (3:3:0) (Interdepartmental) Prerequisite: C.E. 303.

- ☐ **Civil Engineering Science 502. Advanced Properties of Materials I.*** (3:3:0) (Interdepartmental) Prerequisite: C.E. 305 or equivalent.

- 510. Fluid Mechanics II.** (3:3:0) S. Prerequisites: Math. 322; M.E. 412.

Compressible flow; shock effects; Fanno and Rayleigh lines; generalized one-dimensional flow.

- 511. Intermediate Gas Dynamics.** (3:3:0) Prerequisite: M.E. 413.

Potential theory and Euler's equations. Supersonic and subsonic multi-dimensional flow. Method of characteristics, small perturbation theory, Hodograph theory. Theoretical airfoil coefficients, etc.

- 512. Boundary Layer Theory.** (3:3:0) Prerequisite: M.E. 412.

The stress tensor, Navier-Stokes equations, exact solutions for parallel flow, lubrication theory, Prandtl's equations, separation, Karman-Pohlhausen integral methods; applications.

- 515. Applied Aerodynamics and Flight Mechanics.** (3:3:0) Su. Prerequisite: M.E. 413.

An integrated picture of modern applied aerodynamics up to and including performance, stability, and control of aerospace vehicles.

- 521. Advanced Thermodynamics.*** (3:3:0) Prerequisite: M.E. 322.

Extended treatment of the fundamentals of thermodynamics, including transient conditions, direct energy conversion, and current topics.

- 522. Combustion.*** (3:3:0) Prerequisite: M.E. 322.

Mass balance and chemical structure; chemical equilibrium and kinetics as applied to combustion; burning models, solid, liquid, and gaseous. Deflagration and detonation-type burning; properties of fuels and combustion hardware.

- 523. Statistical Thermodynamics.*** (2:2:0) Prerequisites: M.E. 321; Stat. 321.

Methods of statistical inference, Jaynes formalism, statistical treatment of perfect gases, discussion of thermal properties from a molecular (microscopic) point of view.

- 531. Principles of Automatic Control.*** (3:3:0) Prerequisites: M.E. 412, 435; Math. 322.

Transfer functions applied to mechanical, hydraulic, pneumatic, and electrical components and their combination. Block diagrams, Nyquist and Routh criteria. Bode's and root locus plots, integral and error rate compensation. Nonlinear systems.

- 533. Stress Analysis of Aerospace Structures.*** (3:3:0) Prerequisite: C.E. 501 or consent of instructor.

Particular emphasis is given to analysis of aircraft and missile-type structures; buckling of columns and compression panels; shear and tension field panels; curved beams and rings; semimonocoque structures.

- 534. Mechanical Vibrations.** (3:3:0) F. Prerequisites: Math. 321; C.E. 304.

Fundamentals of simple vibrating systems, with applications.

- 535. Advanced Vibration Analysis.*** (3:3:0) Prerequisite: M.E. 435.

Vibration characteristics of systems with multiple degrees of freedom; vibrational modes of elastic bodies; random vibrations; simple nonlinear systems.

- 537. Advanced Kinematics.*** (3:3:0) Prerequisite: M.E. 431.
Geometry of constrained motion, with application to point paths; kinematic synthesis; types of mechanisms.
- 540. Heat Transfer.** (3:3:0) S. Prerequisites: M.E. 412, 321; Math. 323.
Fundamentals of heat transfer; basic laws, conduction; convection; change of phase; radiation.
- 541. Advanced Heat Transfer.** (3:3:0) Prerequisite: M.E. 441.
Heat transfer analysis by numerical and analog methods. Emphasis on radiation and conduction. Use of digital and analog computers, passive analogs.
- 552. Design and Materials Applications.** (3:3:0) Prerequisites: M.E. 351, 454.
Applied and residual stresses; material selection; static, impact, and fatigue strength; fatigue damage; surface treatments; elastic deflection and stability—all as applied to mechanical design.
- 554. Advanced Manufacturing Processes.*** (3:3:0) Prerequisite: M.E. 351, or consent of instructor.
Basic analysis of forming, machining, welding, and casting processes, with emphasis on microstructures. Selection of process parameters, with consideration of economics and material properties.
- 571. Mechanical Design I.** (2:1:3) F.S. Prerequisites: M.E. 413, 441, 454, or consent of instructor.
Application of mechanical engineering theory to specific design problems. Emphasis on group projects. Philosophy of design.
- 572. Mechanical Design II.** (3:1:6) F.S. Prerequisites: M.E. 413, 441, 454, or consent of instructor.
Continuation of M.E. 571, with emphasis on prototype construction, testing, and evaluation.
- 581. Internal Combustion Engines.** (3:2:3) Prerequisite: M.E. 322.
Basic principles of spark-ignition and compression-ignition engines, actual cycles, performance characteristics, carburetion and ignition principles, detonation, and combustion. Laboratory work with three advanced engine testing cells.
- 583. Principles of Turbomachinery.** (3:3:0) Prerequisite: M.E. 412.
Dimension analysis; stator and rotor energy and momentum transfer; radial and axial flow machines; system component matching; Reynolds number and Mach number effects; applications.
- 585. Jet Propulsion Power Plants.** (3:3:0) Prerequisite: M.E. 413.
Synthesis course in thermal propulsion systems. The rocket, ram jet, and turbojet are used as vehicles for teaching propulsion fundamentals and system interactions.
- 591R. Seminar.*** ($\frac{1}{2}$:1:0 ea.) F.S. Prerequisite: senior standing.
Student and faculty presentation of topics of special and current interest.
- 595R. Special Problems.*** (Arr. ea.) Prerequisite: consent of department chairman.
- 597. Undergraduate Research.*** (Arr.) Prerequisite: consent of department chairman.
- 611. Theories of Fluid Turbulence.*** (3:3:0) Prerequisite: M.E. 412 or consent of instructor.
- 612. Principles of Ideal-Fluid Dynamics.** (3:3:0) Prerequisites: M.E. 412; Math. 322, 323.
- 621, 622. Thermodynamics Theory I, II.***** (3:Arr.:Arr. ea.) Prerequisite: M.E. 322.

631. **Mechanical Control Systems.**** (3:3:0) Prerequisite: M.E. 531.
635. **Advanced Vibration Analysis II.**** (3:Arr.:Arr.) Prerequisite: M.E. 535.
637. **Advanced Dynamics of Mechanical Elements.**** (3:3:0) Prerequisites: Math. 322, 323; M.E. 435.
- 641, 642. **Heat Transfer Theory I, II.**** (3:3:0 ea.) Prerequisite: M.E. 441.
- 661, 662. **Elasticity in Engineering.**** (3:Arr.:Arr. ea.)
- 697R. **Research.**** (Arr. ea.)
698. **Project for Master of Engineering.** (3-5:0:Arr.) F.S.Su. Prerequisite: fifth-year standing in mechanical engineering program.
A design or research project in support of the Master of Engineering program. To be completed in one semester.
- 699R. **Thesis for Master's Degree.**** (6-9:Arr.:Arr. ea.)
- 791R. **Seminar for Doctoral Students.** (1:1:0 ea.)
795. **Selected Topics in Mechanical Engineering.** (1-3:Arr.:Arr.)
797. **Research for Doctoral Students.** (Arr.)
799. **Dissertation for Doctoral Students.** (Arr.)

*Electives offered upon approval of department chairman. Frequency based on demand.

**Graduate courses offered on demand only. Their full description can be found in the Graduate School Catalog.



Students calibrating equipment in the environmentally-controlled mechanical standards laboratory

Microbiology

Professors: Beck, Donaldson, Larsen (chairman, 110 B), R. Sagers.

Associate Professors: Bradshaw, Burton, Hoskisson, Jensen, North, Wright.

Special Instructors: Allman, Call, Knight, Le-Cheminant, G. Sagers.

Laboratory Supervisor: Hilden.



The curriculum of the Department of Microbiology is designed to accomplish the following objectives: (1) train competent microbiologists and medical technologists, (2) provide a basic background for all students' general education, and (3) serve other departments that request or require specific training in microbiology.

Microbiology Major

The minimum requirements for a Bachelor of Science degree in the department are completion of the following courses or their equivalents in microbiology and supporting fields: zoology or botany, 6 hours; Chem. 105, 106, 151, 223, 384, 385; Math. 105; Physics 100; Micro. 331, 491 (2 semesters), 501, 511, and one of the following options: (a) Micro. 401 through 406; (b) Micro. 531 and 451; (c) Micro. 531 and one year of organic chemistry.

The following curriculum is recommended for students who desire adequate preparation for postgraduate university training in microbiology. The courses in physics, advanced mathematics, and chemistry may be replaced by other courses in the physical or biological sciences by students who do not plan to do graduate work.

Freshman Year			
	F	S	
Chem. 105, 106	4	4	
Math. 105 (111), 106(112)	3(5)	3(4)	
Engl. 111, 112	3	3	
Hist. 170		3	
Health	2		
P.E. ½	½	½	
Relig. 2	2	2	
Elective	2	2	
Total Hours	16½	17½	

Sophomore Year			
	F	S	
Chem. 351, 352	3	3	
Chem. 353		2	
Physics 201, 202	5	5	
Math. 109 (113, 214)	4	(3)	
Bio. Agr. Ed 201		4	
P.E. ½	½	½	
Relig. 2	2	2	
Zool. 376 or Bot. 376	3		
Total Hours	17½	16½	

Junior Year			
	F	S	
Micro. 331, 501	5	5	
Chem. 223	5		
Hum. 3	3	3	
Relig. 2	2	2	
Soc. sci. 2	2	3	
Zool. 261		4	
Total Hours	17	17	

Senior Year			
	F	S	
Micro. 491R	1	1	
Micro. 511, 531	4	4	
Micro. elective	2-3		
Micro. 451		3	
Chem. 581, 584	5		
Elective		6	
Engl. lit. 3	3		
Relig. 2	2	2	
Total Hours	17-18	16	

Students minoring in microbiology are encouraged to complete Micro. 331, 501, and additional hours selected from upper-division courses to bring the total to 14 semester hours.

Medical Technology Major

Through a cooperative agreement with various hospitals, Brigham Young University has made provision for training technologists. The program is designed to prepare students for careers in hospital laboratories and medical research laboratories. The curriculum indicated in the following outline consists of a three-year period of residence study at the Brigham Young University campus and one year of practical hospital internship.

During the fourth year (internship) the student will register for Micro. 401 through 406 and pay tuition and fees to the University. After satisfactory completion of the internship, the student is eligible to receive a Bachelor of Science degree in microbiology.

Students may elect to study on campus for four years and complete requirements for a Bachelor of Science degree in microbiology prior to the hospital internship. Such students are not required to register at the University during their internship.

Freshman Year			Junior Year		
	F	S		F	S
Math. 105	3		Micro. 391		2
Chem. 105, 106*	4	4	Micro. 491R	1	1
Bio. Agr. Ed. 201		4	Micro. 501, 511	5	4
Engl. 111, 112	3	3	Zool. 376 or Bot. 376		3
Health 130		2	Zool. 317	3	
Relig.	2	2	Chem. 223	5	
Soc. sci.	3		Hum.		3
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Total Hours	16	16	Soc sci.		2
	F	S	Total Hours	16 $\frac{1}{2}$	17 $\frac{1}{2}$
Sophomore Year			Senior Year		
Chem. 151; 384, 385	5	5	Hospital Internship	F	S
Physics 100	3		Micro. 401, 402, 403	15	
Zool. 261		4	Micro. 404, 405, 406		15
Micro. 331		5	Total Hours	15	15
Hist. 170	3				
Relig.	2	2			
Hum.	3				
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$			
P.E.	$\frac{1}{2}$	$\frac{1}{2}$			
Total Hours	17	17			

*Chem. 111 and 112 can be substituted for Chem. 105 and 106.

Courses

121. Introductory Microbiology. (3:3:2) F.S. (G-BS) Recommended for students seeking a liberal education in microbiology who do not have the prerequisites to take the more advanced courses. Only one of the two courses 121, 321 may be taken for credit.

A survey of fundamental biological processes observed in bacteria and other microorganisms; growth, reproduction, genetic changes, and metabolism, together with beneficial and harmful activities related to man and other forms of life.

- 311. Sanitation and Public Health.** (2:2:0) F.S. Home Study also. (G-BS m)
Jensen, G. Sagers
Sanitary and public health practices. For students desiring a basic course in the role of the individual and the community in promoting health and preventing disease.
- 321. General Microbiology.** (3:3:0) F.S. Home Study also. (G-BS m) Prerequisite: any chemistry course and any zoology or botany course. Not open to students who have completed Micro. 121.
The microbiobial world. Recommended for all students seeking a liberal education in microbiology who have completed the prerequisites.
- 322. General Microbiology Laboratory.** (1:0:3) F.S. (G-BS m) Prerequisite: concurrent or previous registration in Micro. 321.
- 331. Microbiology.** (5:3:6) F.S. (G-BS m) Prerequisite: any organic chemistry course.
Beck, Bradshaw, Burton
Introduction to microbiology. The first microbiological course for students majoring or minoring in microbiology or medical technology and any other students having the prerequisites and desiring a comprehensive course in microbiology.
- 361. Food Microbiology.** (2:1:3) S. (m) Prerequisite: Micro. 121 or equivalent.
Hoskisson
- 371. Dairy Microbiology.** (2:1:3) F. (m) Prerequisite: Micro. 121 or equivalent.
Hoskisson
- 381. Water and Sewage Microbiology.** (2:1:3) S. (m) Prerequisite: Micro. 121 or equivalent.
Hoskisson
- 391. Clinical Pathology.** (2:1:3) S. (m) Prerequisite: Micro. 331.
Call, Knight, LeCheminant
Theory and application of diagnostic methods employed in hospital laboratories.
- 401, 402, 403. Applied Clinical Diagnosis Laboratory.** (5:2-3:6-10 ea.) F.
Applied clinical work is done in an approved hospital during a year's practical internship. Hospital selected must be accredited by Council of Medical Education of the AMA and its pathologist and radiographic technician recognized by the American Society of Clinical Pathologists.
- 404, 405, 406. Applied Clinical Diagnosis Laboratory.** (5:2-3:6-10 ea.) S.
- 411. Epidemiology.** (2:2:0) S. Prerequisite: Micro. 121 or equivalent.
Jensen, Wright
Principles of epidemiology and control of communicable diseases.
- 451. Bacterial Physiology.** (3:3:0) S. (m) Prerequisites: Micro. 331 and Chem. 384 or equivalent.
Beck, Burton, R. Sagers
Function and structure in the bacterial cell.
- 491R. Undergraduate Seminar.** (1:1:0 ea.) F.S. (m)
- 495R. Special Problems.** (1-4:Arr.:Arr. ea.) F.S. (m)
Individual work on research problems based on the previous preparation of the student.
- 501. Pathogenic Microbiology.** (5:3:6) F.S. (m) Prerequisite: Micro. 331 or consent of instructor.
Larsen, Wright
A study of the characteristics of pathogenic bacteria, viruses, rickettsia, yeasts, and molds.
- 511. Immunology.** (4:2:6) F.S. (m) Prerequisite: Micro. 501 or consent of instructor.
Donaldson, North
Theories of immunity; training in serological methods.

521. **Industrial Microbiology.** (2:2:0) F. (m) Prerequisites: Micro. 331 and bio-chemistry. Beck, Larsen
The employment of microorganisms in industrial processes.
522. **Industrial Microbiology Laboratory.** (1:0:3) F. (m) Prerequisite: completion of or concurrent registration in Micro. 521. Beck, Larsen
531. **Virology.** (4:2:6) S. (m) Prerequisite: Micro. 501 or 511. Jensen, North
Characteristics of viruses and virus diseases.
551. **Advanced Microbiology.** (5:3:6) S. (m) Prerequisites: Chem. 581 and 584 or consent of instructor. Beck, Bradshaw, Burton
581. **History of Microbiology.** (1:1:0) F. (m) Prerequisite: senior or graduate status. Beck, Larsen
611. **Advanced Immunology.** (2:2:0) S. Prerequisite: Micro. 511. Donaldson
631. **Advanced Virology.** (2:2:0) Prerequisites: Micro. 531; Chem. 581 or equivalent. Jensen, North
Replication and biophysical characteristics of cytotoxic and oncogenic animal viruses, with emphasis on the molecular basis for the attendant changes in cell metabolism.
632. **Cell and Tissue Culture Techniques.** (2:0:4) Prerequisites: Micro. 531; Chem. 581 or equivalent. Jensen, North
A laboratory course in advanced techniques utilized in cell and tissue culture procedures.
641. **Radioactive Tracer Techniques in Biology.** (3:1:6) F. (m) Prerequisites: Physics 202 and consent of instructor. Beck, R. Sagers
651. **Special Topics in Bacterial Metabolism.** (2:2:0) F. Prerequisite: Micro. 551. Bradshaw, Burton, R. Sagers
661. **Microbial Genetics.** (4:2:6) F. Prerequisites: Micro. 331, a course in general genetics, and Chem. 581 or equivalent. Bradshaw
A study of the molecular bases of genetics of bacteria and bacteriophages, including mechanisms of DNA transfer, uptake, recombination, replication, and mutation.
- 691R. **Graduate Seminar.** (1:1:0 ea.) F.S.
- 695R. **Research.** (1-5:Arr.:Arr. ea.) F.S.
Instruction and laboratory experimentation in specific microbial disciplines.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.
799. **Dissertation for the Ph.D. Degree.** (Arr.) F.S.

Military Science

Professor: Colonel Lyon (chairman, 320A ROTC).

Associate Professor: Lieutenant Colonel Pulsipher.

Assistant Professors: Captain Aldridge, Major Cowles, Captain Kallunki, Major Mills.

Tactical Instructors: Sergeant First Class Nay, Master Sergeant Olson, Master Sergeant Paupard, Specialist Pitts.



General Information. The Army ROTC program is designed to produce qualified commissioned officers for the U.S. Army. The cadet specializes in the major field of his choice and graduates able to function as a junior officer in one of 15 of the Army's branches. His initial active duty will be a nine-week basic course as an officer in the branch in which he is commissioned. Military science courses supplement the student's academic major and are designed to teach principles and techniques of leadership and management in preparation for service as a commissioned officer in the Army. ROTC graduates also reflect this training following their active service as leaders in business, civic, and community affairs.

Eligibility. The beginning student must be or intend to become a citizen of the United States. Physical and academic standards for entry into the basic course (first two years) are the same as those of the University. To qualify for the advanced course, the cadet must pass a mental and physical examination during the year preceding his entry into the advanced course. At the beginning of the Fall Semester of his junior year, the cadet signs an agreement to complete the last two years of Army ROTC, attend a six-week summer camp, and serve a two-year tour of active duty with the Army upon graduation. The cadet is then sworn into the Army Enlisted Reserve. A student incurs no military obligation through participation in ROTC until he qualifies for the advanced course.

The Four-Year Program. This is the traditional program which extends over four years of college. Students also attend an advanced six-week summer camp at Fort Lewis, Washington, normally between their junior and senior years.

The Two-Year Program. This program allows a student to complete all requirements for an Army commission in two years of college. The applicant must fulfill admission requirements during the year prior to his desired enrollment. He is then sent to a basic six-week summer camp at Fort Knox, Kentucky, during the summer. Upon return to college, the qualified applicant is then enrolled in the two-year program and continues thereafter in the same final two years as those in the four-year program.

Enrollment. Four-year students normally enroll in Army ROTC during their freshman year. Two-year applicants normally apply and are selected during their sophomore year and enter the program at the beginning of their junior year. Students desiring to enter the program at other times should consult the professor of military science. Army ROTC is normally but not always completed at the time of graduation. A baccalaureate degree is a prerequisite to a commission, with exception in some cases for premedical students who have completed the equivalent of baccalaureate-level work.

Minor in Military Science. Students desiring military science as a minor must complete the Army ROTC requirements (including 12 hours of upper-division military science course work and 2 to 6 additional hours approved by the professor of military science) and otherwise qualify for an Army commission. A major in military science is planned. Interested students should consult the department chairman.

Textbooks, Uniforms, and Allowance. Uniform and textbooks are furnished. All students in the advanced course receive a monetary allowance of \$50 per month (more than \$1,000 over two years).

Army ROTC Scholarships. A financial aid program is available to especially qualified and motivated four-year-program Army ROTC cadets, on a competitive basis. Tuition, fees, a \$100-per-year text allowance, and a \$50-per-month monetary allowance are provided. Students receiving this additional financial support serve on active duty for four rather than two years.

Summer Camp. This off-campus training develops in the cadet a better understanding of the Army mission and its operations. Students receive practical military training and experience in leadership and management in realistic situations at a major Army post. Medical care, food, and clothing are provided. Approximately \$250 in pay is received by all cadets for the advanced six-week summer camp. For two-year program cadets, pay for their basic summer camp period is about \$150. In addition, all cadets receive travel pay of \$.06 per mile to and from the Army post.

Flight Instruction Program. A flight instruction program is conducted by an accredited local flying school. Senior cadets who wish to become Army aviators later are eligible to participate. Flying instruction totaling 36½ hours is given, and students can usually qualify for a private pilot's license. Ground school instruction in navigation, weather flight rules, and other appropriate subjects is presented by accredited instructors at the Provo airport.

Extracurricular Activities. Each Army ROTC cadet will be able to extend his academic and laboratory associations into many extracurricular ROTC activities. Among these are the Drill Team, Honor Guard, Army ROTC Chorus, annual Military Ball, and the many school service projects performed by the Cadet Brigade. Associations and friendships formed continue long after college.

LDS Missions. It is most convenient for the student to complete a two-year Church mission between his freshman and sophomore years, to facilitate his selection for the advanced course. Interruptions of the program at other times are less convenient but can be arranged, with individual approval obtained through the professor of military science.

Period of Nonattendance. Students in Army ROTC who are in a five-year academic program such as an engineering major may complete their Army ROTC courses at any point prior to their graduation and remain deferred from induction until graduation. They are encouraged to participate in leadership laboratory even when not enrolled for military science classroom courses. Out-of-phase students and those who will be student teaching should consult the department chairman.

Military Deferment. Students enrolled in the Army ROTC program may receive a I-D deferment from induction after they have completed at least one semester of military science work at BYU. Normally, however, the II-S (student) classification is sufficient to defer induction until the cadet enters the advanced course and receives a I-D classification.

Discipline. Disciplinary training in the Cadet Brigade is formulated and administered principally by the cadets themselves, within guidance by the professor of military science. Cadets are civilians and are not subject to active-duty provision of military law while in ROTC.

Veterans. A veteran seeking a commission through Army ROTC may have the freshman and sophomore military science courses waived in recognition of his military experience. ROTC allowances are paid in addition to the G.I. Bill educational benefits received by the veteran.

Course Fee. A \$7.00 course fee is required of each participating student for each semester (\$14 paid for year). The purpose of this fee is to cover yearbook and other publication costs, cadet activity expenses, and other minor special costs not authorized for payment by the government as part of the ROTC program.

Army Sponsor Corps. The Army Sponsor Corps is a campus service organization. Members (women students) are usually selected for membership during the Fall Semester. They are required to register for a leadership laboratory course corresponding to their academic status in the University. They receive one-half credit hour per semester for the laboratory courses.

The Program

The Army ROTC program is designed to fit into the regular academic schedule of the University. It consists of military and other academic classes, leadership laboratory, and off-campus summer camp training. The first two years of on-campus work are designed to acquaint students with the evolution of warfare, American military history, the present organization of the Army and the defense establishment, basic firing techniques, map reading, and small unit tactics. The curriculum for the final two years emphasizes preparation for the advanced summer camp, including tactics, communications, and branches of the Army; leadership techniques; Army functions such as management, logistics, and military justice; and, just prior to commissioning, the role of the U.S. in world affairs. It also provides a deeper understanding of the United States Army and the many career opportunities in its branches. Cadets with high academic and military achievement are given first choice in branch assignment.

A leadership laboratory is required each semester.

The academic program is taught by highly-qualified Army officers. All academic work counts toward graduation requirements.

The following is the normal sequence of Army ROTC classes (two-year program students follow sequence shown for the junior and senior years).

Basic Course				Advanced Course			
Freshman Year				Junior Year			
	F	S			F	S	
M.S. 110, 111	$\frac{1}{2}$	$\frac{1}{2}$		M.S. 310, 311	$\frac{1}{2}$	$\frac{1}{2}$	
M.S. 120, 121	1	1		M.S. 320, 321	$2\frac{1}{2}$	$2\frac{1}{2}$	
Sophomore Year				Senior Year			
	F	S			F	S	
M.S. 210, 211	$\frac{1}{2}$	$\frac{1}{2}$		M.S. 410, 411	$\frac{1}{2}$	$\frac{1}{2}$	
M.S. 220, 221	2	2		M.S. 420, 421	$2\frac{1}{2}$	$2\frac{1}{2}$	

Courses

- 110.* Leadership.** ($\frac{1}{2}$:0:1) F.
Leadership, drill, and exercise of command; school of the soldier; dismounted drill and ceremonies.
- 111.* Leadership.** ($\frac{1}{2}$:0:1) S. Prerequisite: M.S. 110 or equivalent military experience.
As listed for M.S. 110.
- 120. Military Science I.** (1:1:1) F.
History, organization, and mission of ROTC, basic firing techniques, evolution of warfare.
- 121. Military Science I.** (1:1:1) S. Prerequisite: M.S. 120 or equivalent military experience.
Army organization from squad through division, role of supporting units, organization of the defense establishment.
- 131. Military Science I.** (2:2:1) S.
An alternative single-semester course including course descriptions as listed for M.S. 120 and M.S. 121.

- 210.* Leadership.** ($\frac{1}{2}$:0:1) F. Prerequisite: M.S. 111 or equivalent military experience.
As listed for M.S. 110, emphasizing functions, duties, and responsibilities of squad leaders and platoon sergeants.
- 211.* Leadership.** ($\frac{1}{2}$:0:1) S. Prerequisite: M.S. 210 or equivalent military experience.
As listed for M.S. 210.
- 220. Military Science II.** (2:2:1) F. Prerequisite: M.S. 121 or equivalent military experience.
American military history, with emphasis on leadership principles and techniques.
- 221. Military Science II.** (2:2:1) S. Prerequisite: M.S. 220 or special permission.
Basic map reading, small unit tactics.
- 310.* Leadership.** ($\frac{1}{2}$:0:1) F. Prerequisite: M.S. 211 or equivalent military experience.
As listed for M.S. 210.
- 311.* Leadership.** ($\frac{1}{2}$:0:1) S. Prerequisite: M.S. 310 or equivalent military experience.
As listed for M.S. 310.
- 320. Military Science III.** (2 $\frac{1}{2}$:3:1) F. Prerequisite: M.S. 221 or equivalent military experience.
Objectives, principles, traits, and techniques of leadership; military methods of instruction; counter-insurgency operation; map reading.
- 321. Military Science III.** (2 $\frac{1}{2}$:3:1) S. Prerequisite: M.S. 320.
Tactics of small infantry units; communications; branches of the Army; summer camp orientation.
- 410.* Leadership.** ($\frac{1}{2}$:0:1) F. Prerequisite: M.S. 311.
As listed for M.S. 310, stressing responsibilities in leadership and affording experience as cadet officers in conduct of formal drills and ceremonies.
- 411.* Leadership.** ($\frac{1}{2}$:0:1) S. Prerequisite: M.S. 410.
As listed for M.S. 410.
- 420. Military Science IV.** (2 $\frac{1}{2}$:3:1) F. Prerequisite: M.S. 321.
Army organization and functions—administrative management, logistics, and leadership.
- 421. Military Science IV.** (2 $\frac{1}{2}$:3:1) S. Prerequisite: M.S. 420.
Army organization and functions—military justice, defense development, role of the U.S. in world affairs.

*Members of Army Sponsor Corps enroll in separate section of these courses, designated in class schedules by "W" suffix.

Music

Professors: Bradshaw, Cannon, Davis, Earl, Goodman (chairman, C-550-D HFAC), Halliday, H. Laycock, R. Laycock, Nibley, Nordgren, Sardoni, Wheelwright, Woodward.

Associate Professors: Barnes, Keeler, Mason, Stubbs, Williams.

Assistant Professors: Arbizu, Ballou, Belnap, Cundick, Curtis, Dalton, Downs, Foxley, Gibbons, Groesbeck, Kalt, Longhurst, Manookin, Pollei, Powley, Terry, Wakefield.

Instructors: Bos, Elkington, Smith, Webb.



The main objectives of the Department of Music are to help each student attain through music the skills and proficiencies of an artist while he is gaining a broad general education; to develop talent to the highest degree possible; to train music teachers for a noble profession; and through association with distinguished artists and teachers, to help all BYU students acquire discriminating taste and sound critical judgment.

The Bachelor of Arts degree is available with majors in music theory, applied music, and music education. The Bachelor of Music degree is available with a major in music education. The master's and doctor's degrees may be taken in musicology, music theory, and music education. The Master of Music degree is available in piano, organ, and voice.

Students who desire to become composers, arrangers, or music copyists, or who wish to teach theory of music, should pursue a major in music theory.

Every music major studies a certain amount of applied music in order to develop proficiency on his major instrument or in voice. Students who wish to become skilled performers in order to qualify themselves to assume positions in the concert or professional world should major in applied music.

The music education program provides professional preparation for prospective teachers of music in public schools, junior colleges, and universities. This would include the classroom teachers of general music, music theory, music history, and class piano; elementary classroom music teachers; consultant resource and specialist for elementary teachers; supervisors; directors of music; conductors of band, orchestra, and choir. Other areas of professional placement that music education courses contribute to are music therapy, music industry, and private teaching. The master's-degree program in elementary or secondary school music is designed to prepare teachers, supervisors, and music consultants who can help classroom instructors teach music effectively.

A cultural atmosphere seldom equalled is provided through concerts and recitals, including visiting groups and artists. The Department of Music sponsors more than 265 concerts and recitals each year, not including the lyceum service provided by student body activities and by lyceum committees.

There is a musical organization for every student at BYU who is interested in singing or in playing a musical instrument.

The Music Department offers courses to students desiring professional preparation in music theory, music education, and applied music; to students desiring a minor in music; and to students who seek a general cultural background in music.

Music Majors

1. **Degrees Offered.** A baccalaureate degree in music can be taken with a major in applied music, music theory, or music education (secondary). The curriculum for a major in applied music or music theory prepares for the Bachelor of Arts degree. The curriculum for music education prepares for a Bachelor of

Music degree or a Bachelor of Arts degree. The master's and doctor's degrees may be taken in musicology, music theory, music education, and applied music.

2. Prerequisites. The Music Department presupposes that a student who wishes to major in music will have had previous training in music before entering the University. In order to determine the degree of attainment in basic musical skills, each entering freshman and transfer student who desires to major in music will be given the Music Department entrance test which is given each semester during the orientation period and which is otherwise available to be taken by music major candidates through the University Testing Service.

3. Recital Attendance. The Music Department presents annually over 265 recitals, concerts, and performances. These offerings are augmented by the University lyceum series of recitals and concerts by world-renowned artists and major musical performing groups. A music major is required to attend at least sixteen of these musical events per semester in residence. He is responsible to record his attendance at performances, using forms provided by the Music Department. At the end of each semester he returns the forms to the Music Department office, C-550 HFAC, where they are placed in his files.

4. Piano Proficiency. All music majors are required to take a preliminary examination in piano. This examination is provided during orientation and registration. Proficiency at the level of easy piano accompaniments is required. Those not meeting this proficiency standard must make up the deficiency in either private or group piano study.

5. Proficiency Examinations on Major Instruments or Voice. Proficiency examinations for each music major are given every spring during the first week in May. Students perform representative works studied during the year. The student submits as a part of the examination a repertoire list indicating which pieces are to be performed for the examination. Forms outlining minimum proficiency requirements for each instrument and each major are available at the Music Department office. A proficiency examination is taken by all first- and second-year students at the end of the second year, and by all music majors at the end of the third year. Applied majors have a senior recital in lieu of an examination in the fourth year.

6. Recital Fees. A fee of \$25 is assessed for graduate or undergraduate students' solo or joint recitals. This fee is for printing programs and recording the recital, a tape of which is given to the student.

7. Curriculum for Music Majors. As the first-year program is identical for all majors, the area of specialization within the Music Department is not chosen until the beginning of the sophomore year. Admissions to the various specialized programs will be based upon the following points:

- Applied Majors:** Strong achievement in applied music as evidenced in the proficiency examination given at the close of the first year of study.
- Music Theory Majors:** Strong achievement in Mus. 191, 192, 193, and 194, and generally good scholastic achievement in other courses.
- Music Education:** Good balanced achievement in all course work and substantial progress in applied music as evidenced in the proficiency examination given at the close of the first year of study. Continuation is dependent upon recommendation of individual instructors with whom the student has studied.

The first-year course work for all music majors includes the following:

Course	F	S	Mus. 103	2	
Engl.	3	3	Mus. 107, 108	(2)	(2)
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	(until proficiency achieved)		
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Mus. 160p	2	2
Relig. 121, 122	2	2	Ensemble (band, orchestra, chorus, etc.) ..	1	1
Health 130		2			
Mus. 191, 192	2	2	Mus. 165 (for voice		
Mus. 193, 194	2	2	specialty)	(1)	

Music Minors

Those who want an academic minor in music will take Mus. 101 or 103, 191, 193, 2 hours of ensemble, and 6 hours of electives in music. The Music Department offers no music minor leading to secondary teaching certification.

Elementary Music Education Minors

Prospective elementary school teachers who desire a minor in music are required to take Mus. 101, 191, 193, 202, 421, 4 hours of ensemble (band, orchestra, or chorus), and 4 hours of class or private study until a functional proficiency in piano and/or voice is demonstrated.

Music Minor in Organ

Hours			
Mus. 159p and 160p	8	Mus. 468	2
Mus. 191	2	Mus. 201	2
Mus. 193	2		
Mus. 167	2	Total	18

Degree in Applied Music

To receive a Bachelor of Arts degree with a composite major in applied music, a student completes the first-year courses suggested above and the following courses during the remaining three years:

Hours			
Mus. 291, 292	8	Ensembles	8
Mus. 202	2	Mus. 160p	8
Mus. 484, 485	6	Mus. 360p	8
Mus. 472, 491	6	Mus. 481 (all but voice majors)	3

(Keyboard majors substitute Mus. 262, 263, 391, and 463 for part of the ensemble requirement. Other majors are encouraged to vary their ensemble experience.)

Majors in the various fields of applied music are required to take certain special classes in addition to the above requirements.

Piano majors take Mus. 565, 566, 567.

Organ majors take Mus. 167, 468, 566, 567, 569.

Woodwind majors take Mus. 368.

Brass majors take Mus. 370.

String majors take Mus. 372.

Voice majors take Mus. 165, 166, 566, 567, 568.

Voice majors are required to take a total of 16-20 hours in three languages: German, Italian, and French; 8-12 hours in one will fulfill the general education requirements; four hours are required in each of the other two.

Choice of language for other applied majors should be either from German, French, or Italian.

Each semester applied majors of sophomore standing or higher must audition before a panel from their major performance fields. The audition at the end of the sophomore year determines eligibility for advanced applied instruction (Mus. 360p). The audition at the end of the junior year determines his readiness for the preparation of the required senior recital. The senior recital is normally presented during the Spring Semester of the senior year and replaces the audition for that semester.

The following sequence of courses is recommended for majors in applied music:

Sophomore Year							
	F	S					
Relig.	2	2		Mus. 160p	2	2	
Lang. (1st or 2nd year)	4	4		Ensemble	1	1	
Mus. 202		2		P.E.	$\frac{1}{2}$	$\frac{1}{2}$	
Mus. 291, 292	4	4		Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	
				Hist. 170	3		
				Total Hours	17	16	

Junior Year			Senior Year		
	F	S		F	S
Relig.	2	2	Music electives for voice or 481 for others	3	
Lang. (voice majors)	4	4	Mus. 491		3
Mus. 484, 485	3	3	Ensemble	1	1
Ensemble	1	1	Mus. 360p	2	2
Mus. 360p	2	2	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Mus. 472		3	Electives (must include special music classes)		4
Electives (must include the special music classes)	2	1	Gen. ed.	10	6
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$			
Gen. ed.	2		Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$			

Degree in Music Theory

For a Bachelor of Arts degree with a composite major in music theory, a student is required to complete the following music courses or their equivalents:

	Hours		
Mus. 191, 192, 193, 194, 291, 292, 391, 392, 491, 471, 472, 481, 482	37	Mus. 160p—360p on special- ty (2nd-year proficiency)	8
Mus. 103	2	Mus. 202	2
Mus. 160p (functional piano, pass 2nd-year proficiency)	8	Ensembles (at least 2 differ- ent ensembles)	4
		Total	61

Mus. 484, 485 should be taken to satisfy the general education requirements in humanities and aesthetics.

The hours to be taken in individual or group instruction may be reduced if a student, as determined by entrance examinations, has already had considerable training in these areas. At the end of each year of individual instruction, the student takes an examination on his major instrument or in voice to determine his level of achievement. For the examination, each candidate submits a list of his repertoire indicating compositions or studies especially prepared for the examination. Forms on which a record of the student's repertoire is kept and outlines of instrumental and vocal proficiency requirements are available at the Music Department office.

Majors in music theory participate in musical ensembles for a minimum of four semesters of undergraduate training. The student performs in at least two ensembles. A student whose specialty is a band or orchestral instrument takes two hours of instrumental ensemble and two hours of choral ensemble. A student whose specialty is voice sings in at least two choral ensembles.

The ability to play the piano is an indispensable tool for music theory majors; consequently, every major in music theory must pass a piano proficiency examination (second-year standards) during the first semester of residence or take group or individual piano instruction until he passes the examination.

The following sequence of courses is recommended for majors in music theory:

Sophomore Year				
	F	S		
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Mus. 291, 292	4
Relig.	2	2	Mus. 160p (specialty) ..	2
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Ensemble	1
Hist. 170		3	Elective (Lang. 101 if needed)	4
Soc. sci.	3			
Lang. 102		4	Total Hours	17

Junior Year			Senior Year		
	F	S		F	S
Mus. 484, 485	3	3	Biol. sci.	3	3
Lang. 201	4		Phys. sci.	3	3
Relig.	2	2	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Soc. sci.		2	Mus. 471, 472	3	3
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Mus. 481, 482	3	3
Mus. 391, 392	3	3	Mus. 160p or 360 p		
Mus. 491		3	(specialty)	2	2
Mus. 160p or			Elective	2	2
360p (specialty)	2	2			
Mus. 202	2		Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Total Hours	16 $\frac{1}{2}$	15 $\frac{1}{2}$			

Degree in Music Education

To receive a Bachelor of Music degree with a composite music education major, a student is required to complete the following music courses or their equivalents:

Composite Music Major

	Hours		Hours
Mus. 191, 192, 193, 194, 291,		Mus. 103, 484, 485	8
292, 472, 481	22	Ensemble	6
Mus. 363*, 364*, 367, 368, 370,		Private instruction on specialty ..	12
372	9	Mus. 165 (voice specialty)	(1)
Mus. 202, 374, 375, 376, 378	10	Total Hours	67-68

*For students with instrumental specialties only. Those students taking voice as a specialty should take Mus. 566.

(This degree requires additional professional education courses to meet teaching certification requirements. For details see the Education section of this catalog.)

Wind instrumentalists and percussionists who pursue one of the music education degrees participate at least one semester in marching band and one semester in Mus. 336. Voice majors must sing in at least two types of choral ensembles, and string majors must perform at least four semesters with the orchestra.

For the baccalaureate degree with a composite major in music education, the student pursues the following sequence of courses:

Sophomore Year			Junior Year		
	F	S		F	S
Mus. 291, 292	4	4	Mus. 472		3
Mus. 165 (for vocal emphasis)	(1)		Mus. 484	3	
Mus. 160p, 360p	2	2	Mus. 160p, 360p	2	2
Mus. 363, 364 (566 for vocal emphasis; to be taken junior or senior year)	1	1	Ensemble	1	1
Ensemble	1	1	Mus. 367	1	
Mus. 202		2	Mus. 374, 375	2	2
Mus. 370, 368	2	2	Mus. 376, 378	2	2
Mus. 372		2	Forum assy.	$\frac{1}{2}$	$\frac{1}{2}$
Forum assy.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	2
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Phys. sci.		3
Relig.	2	2	Biol. sci.	3	
Hist. 170	3		Ed. 301	2	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Mus. 377		3
Total Hours	16 $\frac{1}{2}$ -17 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	18 $\frac{1}{2}$	18 $\frac{1}{2}$

Senior Year					
	F	S	Hum.	2	
Mus. 481		3	Mus. 479	(8 blk)	
Mus. 485		3	Ed. 310	(2 blk)	
Mus. 566 (vocal			Health 362	(2 blk)	
emphasis only)	(2)		Ed. 415	(2 blk)	
Relig.	(2 blk)		Ed. 403		4
Soc. sci.		3	Total Hours	16	15-17

Students electing a Bachelor of Arts degree with a composite music education major should take the above outline plus 12 hours of foreign language, 3 hours of physical science, 3 hours of biological science, and 2 hours of social science.

Every music education major must pass a functional piano proficiency examination before being permitted to student teach.

Music education majors also take an annual proficiency examination covering the materials studied in the student's private lessons on his major instrument or voice. The sophomore proficiency standards must be passed before a student is allowed to continue into advanced study (Mus. 360p). A minimum of one year of advanced study is required before graduation. The final proficiency examination is taken at the end of the year of advanced study at which time the student will have completed all applied music requirements for his degree.

Every music education major must have appeared a minimum of 30 minutes in solo and chamber music recital.

Courses

- 101. Introduction to Music.** (3:3:0) F.S.Su. (G-HA) Cannon, Earl, Powley, Wakefield
Introduction to the fundamental concepts of melody, rhythm, harmony, form, styles, etc., as a basis for understanding and enjoying the masterpieces of the various musical eras. Open to all students without previous training in music.
- 103. Survey of Music Literature.** (2:2:0) F.S.Su. (G-HA m) Prerequisite: for nonmusic majors and minors Mus. 101 or equivalent. Barnes, Cannon, Powley
An intensive study of the history of music, including styles, forms, and mediums from the Middle Ages to the present. Required of all music majors during the first year of study. Music majors and minors only.
- 105A,B. Class Piano for Beginners in Music.** (2:2:0 ea.) F.S.Su. Foxley
Minimum of one-hour daily practice required outside of the class. Instruction in notation of music and in keyboard technique, especially designed for prospective elementary school teachers.
- 106. Group Organ Instruction.** (2:2:0) F.Su. Prerequisite: moderately advanced proficiency at the piano. Special fee. Keeler
Elements of organ manual and pedal technique, elementary repertoire, application to church service.
- 107, 108. Group Piano Instruction.** (2:2:0 ea.) F.S. Foxley, Keeler, Wakefield
Designed for those music majors and minors who cannot pass the piano proficiency examination. Not open to piano majors. Minimum of one-hour daily practice required outside of the class.
- 110. University Chorale.** (1:0:5) F.S.Su.
- 116. Male Chorus.** (1:0:5) F.S. Prerequisite: consent of director. Woodward
- 119. Women's Chorus.** (1:0:5) F.S. Prerequisite: consent of director. Downs
- 125. A Cappella Choir.** (1:0:5) F.S. Prerequisite: consent of director. Woodward

- 128. Opera Workshop.** (1:0:5) F.S.Su. Prerequisite: consent of director.
Curtis, Earl
- 129. Opera Workshop Soloists.** (1:0:5-10) F.S.Su. Prerequisite: consent of director.
Curtis, Earl
A class which provides opportunity for singers to become acquainted with opera literature through the performance of opera excerpts and, in conjunction with opera workshop chorus, produce complete operas on stage.
- 131. Oratorio Choir.** (1:0:5) F.S. Prerequisite: consent of director. Halliday
- 134. Basic Choral Training.** (1:0:2) F. Prerequisite: admission by audition.
The development of basic skills in choral singing and a knowledge of music fundamentals preparatory to membership in select choral groups.
- 135. Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director.
Ballou, Elkington
- 138. Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director. Ballou
- 144. Theatre Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
- 147. Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
R. Laycock
- 148. Chamber Orchestra.** (1:0:4) Prerequisite: consent of director. R. Laycock
Repertoire for small orchestra, chosen from all periods, will be explored and/or prepared for performance.
- 149. Introduction to Concert Music.** (1:1:0) F.S. Powley
Illustrated lectures in preparation for selected concert attendance given before each concert or recital.
- 150. Chamber Music: Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3) F.S.Su.
- 159p. Beginning Applied Instruction.** (2:1:0) F.S.Su.
Fifteen half-hour lessons per semester. One to two hours of practice per day required. Special fee.
Brass—Trumpet, Cornet, French Horn, Trombone, Baritone, Tuba:
Ballou, Cannon, R. Laycock
Harpichord: Wakefield
Organ: Belnap, Cundick, Keeler, Longhurst, Manookin
Percussion: R. Laycock, Powley
Piano: Bradshaw, Cannon, Foxley, Nibley, Pollei, Smith, Wakefield
Recorder: Wakefield
Strings—Violin, Viola, Cello, String Bass, Classical Guitar:
Dalton, Goodman, Kalt, H. Laycock, Nordgren, Sardoni
Voice: Arbizu, Barnes, Curtis, Davis, Downs, Earl, Gibbons, Halliday, Terry, Webb, Woodward
Woodwinds—Flute, Oboe, Clarinet, Bassoon, Saxophone:
Bos, R. Laycock, Stubbs, Williams
- 160p. Intermediate Applied Instruction.** (2:1:0) F.S.Su. Prerequisite: admission by audition.
Fifteen half-hour lessons per semester. One to two hours of practice per day required. Special fee. (For instructors see Mus. 159p.)
- 163. History and Development of the Piano.** (3:3:0) F. (Offered 1970-71 and alternate years) Prerequisite: consent of instructor. Hansen
The musical and technical development of the piano and its ancestral instruments in their social context through the present day.
- 164. Piano Tuning Theory.** (2:2:0) S. Prerequisites: Mus. 163, consent of instructor, and special auditory test. Hansen
Theory of piano keyboard temperaments. Includes Pythagorean, Equal, Aron's (Just) and Marpurg's (Meantone), and tool use.

- 165, 166. Diction for Singers.** (1:1:1 ea.) F.S.Su. Prerequisite: should be taken concurrently with private or group voice study. Mus. 165 a prerequisite for Mus. 166. Required for all applied voice majors. Music education voice specialty required to take 165 only. Halliday
First semester: a study of English, Italian, and Latin diction as related to singing. Second semester: a study of German and French diction as related to singing.
- 167. Organ Problems.** (2:2:0) F.Su. Keeler
Registration, accompaniment playing, and related problems.
- 170. Group Vocal Instruction.** (1:2:0) F.S.Su. Downs, Weininger
Class instruction for beginners in vocal production.
- 175. Piano Tuning Laboratory.** (3:1:7) S. Prerequisites: Mus. 163, and concurrent registration in Mus. 164. Hansen
At least seven supervised hours of weekly piano tuning experience. A minimum of four pianos per week will be tuned by each student.
- 191, 192. First-Year Theory.** (2:2:1 ea.) F.S. (m) Prerequisites: reading ability in music and one year of piano study, or concurrent registration in Mus. 107, 108, or in private piano instruction.
Tonal harmony, part writing, modulation, analysis, simple forms, keyboard. Taken concurrently with Mus. 193 and 194 respectively unless required proficiency in music skills demonstrated.
- 193, 194. First-Year Music Skills.** (2:0:4 ea.) F.S. (m) Prerequisites: reading ability in music and one year of piano study, or concurrent registration in Mus. 107, 108, or in private piano instruction.
Ear training, dictation, sight singing. Either four 1-hour or two 2-hour periods per week. Taken concurrently with Mus. 191 and 192, respectively, unless proficiency in part writing is demonstrated.
- 201. Baton Technique and Hymnody.** (2:2:0) F.S.Su. Downs, Earl
Introduction to the fundamental concepts and skills of baton technique and congregational hymn singing and conducting. Open to all students.
- 202. Essentials in Conducting.** (2:2:0) F.S.Su. Earl, Williams
The fundamental course for the development of complete body skills and coordinations necessary for the conductor. Required of all music majors and minors.
- 226. Music Fundamentals and Skills for Elementary Education Teachers.** (2:2:1) F.S.Su. Davis, Foxley, Gibbons, Groesbeck, Terry
Practical experiences in fundamentals and skills of music. Instruction in techniques of playing simple melody and harmony instruments and writing music symbols. Required of elementary education majors.
- 262, 263. Piano Accompaniment.** (1:1:2 ea.) F.Su. Smith
Study and practical application of the basic aspects of accompanying.
- 264. Piano Technology.** (2:2:0) F. Prerequisites: Mus. 164, 175. Hansen
This class relates every part of the piano to the whole and teaches mechanical regulation of action, pedal traps, care, and general maintenance.
- 275. Piano Tuning and Technical Laboratory.** (3:1:7) F. Prerequisites: Mus. 164, 175. Hansen
More advanced tuning and mechanical mastery of piano regulating. Requires a minimum of four pianos weekly (7 hours) regulated or tuned.
- 276. Fine Tuning and Regulating Laboratory.** (4:1:9) S. Prerequisites: Mus. 264, 275. Hansen
Fine tuning and regulating of both uprights and grands.

- 291, 292. **Second-Year Theory.** (4:4:3 ea.) F.S. Prerequisites: Mus. 192, 194.
Diatonic and chromatic harmony, modulation, ear training, dictation, sight singing, keyboard, chorale harmonization, form and analysis, elementary composition, contemporary compositional techniques.
310. **University Chorale.** (1:0:5) F.S.Su.
316. **Male Chorus.** (1:0:5) F.S. Prerequisite: consent of director. Woodward
319. **Women's Chorus.** (1:0:5) F.S. Prerequisite: consent of director. Downs
325. **A Cappella Choir.** (1:0:5) F.S. Prerequisite: consent of director. Woodward
328. **Opera Workshop.** (1:0:5) F.S.Su. Prerequisite: consent of director.
Curtis, Earl
329. **Opera Workshop Soloists.** (1:0:5-10) F.S.Su. Prerequisite: consent of director.
Curtis, Earl
331. **Oratorio Choir.** (1:0:5) F.S. Prerequisite: consent of director. Halliday
335. **Varsity and Marching Band.** (1:0:5) F.S. Prerequisite: consent of director.
Ballou, Elkington
336. **Fundamentals and Techniques of Marching Band.** (2:2:2) F.S. Prerequisites: Mus. 291, 292. Elkington
Designed to help music education majors learn the techniques of planning, charting, and scoring music for marching band.
337. **Music and Materials for Elementary Children.** (2:2:1) F.S.Su. Prerequisite: Mus. 102. Davis, Foxley, Gibbons, Groesbeck, Terry, Webb
Materials, methods, and problems pertaining to the teaching of music to elementary children. Required of all elementary education majors.
338. **Concert Band.** (1:0:5) F.S.Su. Prerequisite: consent of director. Ballou
344. **Theatre Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
347. **Symphony Orchestra.** (1:0:5) F.S.Su. Prerequisite: consent of director.
R. Laycock
348. **Chamber Orchestra.** (1:0:4) F.S.Su. Prerequisite: consent of director.
R. Laycock
349. **Collegium Musicum.** (1:0:3) F.S.
Designed for advanced instrumentalists and vocalists (nonmusic majors as well as music majors) for credit or audit. Reading of music literature and study of performance practices, medieval to contemporary. Some reading performances for music classes and recital series.
350. **Chamber Music: Brass, Piano, Ancient Instrument, String, Vocal, or Woodwind Ensemble.** (1:0:3) F.S.Su.
- 360p. **Advanced Major Instrumental Applied Instruction.** (2:1:0) F.S.Su. Prerequisite: pass sophomore proficiency standards.
Fifteen 45-minute lessons per semester. Two hours of practice required per day. Special fee. (For instructors see Mus. 159p.)
- 363, 364. **Vocal Workshop.** (1:0:2 ea.) F.S. Prerequisite: Mus. 363 must be taken before 364. Arbizu, Curtis, Woodward
Voice building, problems of solo and group singing, and survey of solo and small ensemble literature. Designed for music education majors with instrumental specialties only. Those students taking voice as specialty should not enroll in this class.
367. **Percussion Workshop.** (1:0:3) F.S. Prerequisite: Mus. 192 or equivalent.
Designed to help music education majors learn to play and to teach percussion instruments. Survey of materials.

- 368. Woodwind Workshop.** (2:0:5) F.S. Prerequisite: Mus. 192 or equivalent.
R. Laycock, Stubbs, Williams
Designed to help music education majors learn to play and to teach woodwind instruments. Survey of materials.
- 370. Brass Workshop.** (2:0:5) F.S. Prerequisite: Mus. 192 or equivalent.
Ballou, Elkington
Designed to help music education majors learn to play and to teach brass instruments. Survey of materials.
- 372. String Workshop.** (2:0:5) F.S. Prerequisite: Mus. 192 or equivalent.
Dalton, Kalt, Sardoni
Designed to help music education majors learn to play and to teach string instruments. Survey of materials.
- 374. Choral Practicum.** (2:0:5) F.S.Su. Prerequisites: Mus. 165, 202, 292, 364, or equivalent.
Earl, Gibbons, Woodward
Designed for music education majors. Experience in choral conducting and singing of typical school materials. Observation and application of rehearsal techniques.
- 375. Instrumental Practicum.** (2:0:5) F.S.Su. Prerequisites: Mus. 202, 292, 367, 368, 370, 372, or equivalent.
R. Laycock, Sardoni
Experience for music education majors in orchestra and band conducting and playing of school materials on the students' minor instruments. Observation and application of rehearsal techniques.
- 376. Music Specialist in the Elementary School.** (2:2:1) F.S. Prerequisites: first-year music theory and Mus. 226 or equivalent.
Groesbeck
The role of the music specialist as teacher, resource person, consultant, or supervisor in the elementary school. Required of all music education majors. Open to elementary education majors with a music minor, in lieu of Mus. 337.
- 377. Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisite: Ed. 301.
Gibbons, Mason
The development of music education concepts; philosophy, objectives, principles, management, and methodology.
- 378. General Music Practicum.** (2:2:5) F.S. Prerequisite: Mus. 337. Gibbons
Designed for music education majors. Experience in materials, methodology, and management of the general music education program in public school.
- 391. Harmony at the Keyboard.** (3:3:0) F.S.Su. Prerequisites: Mus. 192 and moderately advanced keyboard technique.
Keeler
Harmonization of figured and unfigured basses and other voices; cadences, sequences, transpositions, modulations, and improvisations at the keyboard.
- 392. Keyboard Harmony.** (3:3:0) S. Prerequisite: Mus. 391. Keeler
Continuation of keyboard harmony material of Mus. 391, emphasizing secondary triads and seventh chords, nonharmonic tones, secondary dominants and diminished sevenths, augmented triads and augmented sixths, chromatic modulation, and improvisation. Harmonizing of chorales and figured basses.
- 421. Materials and Music Literature for the Elementary Child.** (1:1:1) F.S. Prerequisites: Mus. 226, 337. Davis, Groesbeck
Designed to develop a basic repertoire of children's songs for the elementary education music minor.
- 463. Piano Accompanying.** (1:0:3) F.S.Su. Smith
- 468. Organ Problems.** (2:2:0) S. Prerequisites: Mus. 167, advanced standing as an organ student, and consent of instructor. Keeler
Registration, accompaniment playing, and related problems.

- 471. Sixteenth-Century Counterpoint.** (3:3:0) F.Su. Prerequisite: Mus. 292.
Belnap, Cundick, Nordgren
- 472. Eighteenth-Century Counterpoint.** (3:3:0) F.S.Su. Prerequisite: Mus. 292.
Bradshaw, Cundick, Manookin
- 479. Secondary Student Teaching.** (8:full day, 1st and 2nd blocks of semesters)
F.S. Prerequisite: Mus. 377. Gibbons, Mason
See Ed. 479.
- 481, 482. Orchestration.** (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 292.
Bradshaw, Sardoni, Williams
- 484, 485. History of Music.** (3:3:0 ea.) F.S.Su. (G-HA) Prerequisites: Mus. 103,
291 (music majors), or Mus. 101, 103, and 226 or equivalent (nonmajors).
Barnes, Cannon, Powley
- 491. Analytical Techniques.** (3:3:0) S.Su. Prerequisite: Mus. 292.
Longhurst, Manookin, Nordgren
Development of skill in recognizing processes by which the basic elements of music are organized into compositions of various forms and styles.
- 537. Music for Elementary School Teachers.** (2:2:0) Prerequisites: Mus. 226, 337,
or elementary teaching experience. Davis, Groesbeck
Experiences in teaching various music activities in the elementary school.
- 565. Piano Pedagogy.** (2:2:0) S. Prerequisite: advanced standing as a pianist.
Nibley, Pollei
Methods, materials, and problems in teaching piano.
- 566A,B. 567A,B. Applied Music Literature.** (2:2:0 ea.) F.S.Su. Prerequisite: senior
standing as an applied music major. Arbizu, Belnap, Keeler, Nibley,
Pollei, Smith, Woodward
Intensive study of literature for the major instrument. Taken by senior
and graduate students in applied music, with sections for voice, piano, and
organ.
- 568. Vocal Pedagogy.** (2:2:0) S.Su. Prerequisites: Mus. 166 and advanced vocal
ability. Arbizu, Halliday
- 569. Organ Pedagogy.** (2:2:0) S. Prerequisite: Mus. 468. Keeler
- 587, 588. Composition.** (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 292. Bradshaw,
Manookin
- 601. Music in the Elementary School.** (2:2:0) F.Su. Prerequisites: Mus. 337 and
the equivalent of an elementary education teaching minor in music. Davis
- 603. Music in the Junior High School.** (2:2:0) S.Su. Prerequisite: Mus. 601.
Davis, Gibbons
- 605. Influence of Music on Behavior.** (3:3:0) F.Su. Prerequisite: general psy-
chology, sociology, or equivalent. Davis, Goodman
- 610. Supervision and Administration of Music in the Public Schools.** (2:2:0) S.
Su. Gibbons, Goodman, Mason
- 612. Music Education in Society.** (3:3:0) S.Su. Prerequisites: Mus. 484, 485, or
equivalent. Goodman, Mason
- 613. Basic Concepts in Music Education.** (2:2:0) F.Su. Mason
Required of all candidates for graduate music degrees.
- 615. Vocal Methods, Materials, and Resources.** (2:2:0) F.Su. Prerequisite: Mus.
479 or equivalent. Halliday, Woodward
- 616. Instrumental Methods, Materials, and Resources.** (2:2:0) S.Su. Prerequisite:
Mus. 479 or equivalent. Goodman

620. **Advanced Instrumental Conducting.** (2:3:3) F.Su. Prerequisites: Mus. 292, 374, 375, 485, or equivalent. R. Laycock, Sardoni
621. **Advanced Choral Conducting.** (2:3:3) S.Su. Prerequisites: Mus. 166, 292, 364, 374, 375, 485, or equivalent. Earl, Halliday, R. Woodward
625. **Summer Music Clinic.** (2:4:4) (Two weeks during clinic) Su.
May be counted as either music education or applied music.
- 630A,B,C. **Special Lectures in Music Education.** (2:2:0 ea.) Su. Prerequisite: certification in music plus teaching experience.
635. **Musical Research Techniques.** (3:3:0) F.Su. Prerequisite: graduate standing or consent of instructor. Barnes, Earl
Required of all candidates for graduate music degrees. Should be taken in first semester of graduate work.
637. **Medieval and Renaissance Music.** (4:4:0) F.Su. Prerequisites: Mus. 484, 485, or equivalent. Barnes, Cannon
638. **Music of the Baroque Period.** (3:3:0) F.Su. Prerequisites: Mus. 484, 485, or equivalent. Barnes
639. **Classic and Romantic Music.** (4:4:0) S.Su. Prerequisites: Mus. 484, 485, or equivalent. Barnes
641. **Special Lectures in Musicology.** (3:3:0) F.S.Su. Prerequisites: Mus. 484, 485, or equivalent.
648. **Collegium Musicum.** (1:0:3) F.S. Prerequisite: consent of director.
Practical experience in designing programs, outlining music, and preparing program notes for music from the medieval to modern times.
652. **History of Notation and Paleography.** (3:3:0) F. Prerequisites: Mus. 484, 485, 637, or equivalent. Barnes, Cannon
656. **Hymnology.** (2:2:0) S. Prerequisites: Mus. 484, 485, or equivalent. Barnes, Cannon
- 660p. **Graduate Applied Instruction.** (2:1:0) F.S.Su. Prerequisite: completion of undergraduate applied proficiency requirements and audition.
Fifteen 45-minute lessons per semester. Three hours of practice required per day. Special fee. (For instructors see Mus. 159p.)
663. **Solo Recital.** (2:1:0) F.S.Su. Williams
One period per week with private teachers, 2-3 hours per day, plus public performance of the recital. Required of all graduate students minoring in applied music. Special fee.
673. **Advanced Problems in Musical Structure.** (3:3:0) F.Su. Prerequisites: Mus. 491, 472. Bradshaw, Manookin
675. **Music of the Contemporary Period.** (3:3:0) S.Su. Prerequisites: Mus. 484, 485. Bradshaw, Manookin
A survey of twentieth-century music, including its relationship to the past and its sociological, psychological, and philosophical implications for the present day.
686. **Pedagogy of Music Theory.** (3:3:0) F.Su. Prerequisite: Mus. 292. Nordgren
- 687, 688. **Composition.** (3:3:0 ea.) F.S.Su. Prerequisite: Mus. 588 or equivalent. Bradshaw
693. **Pro-Seminar in Music.** (2:2:0) S.Su. Prerequisites: Mus. 484, 485, 635, or equivalent, and approval of advisory committee.
Barnes, Earl, H. Laycock, Mason
Required of all candidates for graduate music degrees.

- 694A,B. Independent Readings.** (2:0:6 ea.) F.S.Su. Prerequisite: Mus. 693 or equivalent.
- 697. Recital for Master of Music Degree.** (4:Arr.:Arr.) Prerequisites: approval of advisory committee and graduate music faculty. Belnap, Halliday
Keeler, Pollei, Smith, Williams, Woodward
Required of all Master of Music degree candidates. Includes the preparation of a public recital and a research paper on specific aspects of the recital. Special fee.
- 698. Composition for Master's Degree.** (2-6:Arr.:Arr.) F.S.Su. Prerequisite: approval of the Music Department graduate committee based upon evidence of ability in composition as manifested in a preliminary work. Bradshaw
To be submitted in lieu of a thesis by candidates for the master's degree majoring in composition.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su. Prerequisite: approval of Music Department graduate committee.
Candidates for the master's degree are required to show competence in writing and research before work is begun on the thesis.
- 753. Advanced Problems in Notation.** (3:3:0) Prerequisite: Mus. 652. Barnes, Cannon
- 754. History of Musical Instruments.** (3:3:0) F. (Offered 1970-71 and alternate years) Prerequisites: Mus. 484, 485, or equivalent. Williams
- 785. Historical Aspects of Music Theory.** (3:3:0) S.Su. (Offered 1971-72 and alternate years) Prerequisite: Mus. 292. Nordgren
- 794A,B,C,D. Seminar in Music.** (3:3:0 ea.) F.S.Su. Prerequisites: Mus. 635, 693, or equivalent, and approval of graduate advisory committee.
- 799. Dissertation for Ph.D. Degree.** (Arr.) F.S.Su. Prerequisite: approval of graduate advisory committee.



Oratorio at BYU

Nursing



Assistant Professors: Asey, Bethers, Crane, Hammond, Hood, Kennington, Mangum, Lyons, Merrill, Murphy (acting dean, 2240 SFLC), Potter, Robinson, Schmidt, Thompson, Tillery, Young.

Clinical Instructors: Brown, Brumfield, Groberg, Kingsolver, Long, Turman, Wallin.

About the Program

The College of Nursing provides a basic collegiate education in professional nursing leading to a Bachelor of Science (B.S.) degree for high school graduates, transfer students, and registered nurses. Liberal arts and science courses serve as a basis upon which to develop professional nursing practice. The nursing courses include classroom lectures, laboratory work, and clinical experience. The entire program provides elective courses and extracurricular activities with other students. Upon graduation, a student is eligible to take the State Board Test Pool Examination for licensure to practice nursing as a registered nurse and to use the title R.N.

Many cooperating agencies in the Utah County and Salt Lake County areas provide the use of their facilities for the development of professional nursing practice skills. Each student must provide her own transportation to these facilities, making a car a necessity during the last two years of the program.

Prospective Students

Algebra, chemistry, biology, and physics in high school are needed for an adequate academic background for prenursing courses. A good chemistry background will make it possible for the student to challenge Chem. 101 and be ready to take Chem. 151 without remedial work.

Admission of Registered Nurses

R.N.'s must meet all University entrance requirements. Advanced placement in the College of Nursing will depend on transcripts and National League for Nursing Achievement Baccalaureate scores and written and clinical departmental examinations. Each student is advised individually as to the length of time to complete the program for a B.S. degree, and it is expected that the necessary course work will follow the same sequence as for generic and transfer students.

Enrollment in Nursing Courses and Grade Requirements

Grade "C" or above must be earned in nursing courses and those marked (*) below. Nursing courses are open to challenge by all students. The University requires at least 31 hours of residence credit for a bachelor's degree.

Baccalaureate Degree

First Year							
	F	S	Su				
Relig. 121, 122	2	2		Psych. 111*	3		
Engl. 111, 112	3	3		FSN 115*			2
Chem. 101*, 151*	4	5		Physics 100*		3	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	CDFR 210*		3	
Micro. 121*	3			Zool. 261,* 262*			6
Sociol. 111*			3				
				Total Hours	15 $\frac{1}{2}$	16 $\frac{1}{2}$	11 $\frac{1}{2}$

Third Year							
	F	S					
Relig.	2	2		Nurs. 310		5	
Sociol. 403	2			Hist. 170		3	
Nurs. 351	4			Hum. elective	3		
Nurs. 361	6			Total Hours	17½	16	
Nurs. 375		6					
Nurs. 385		5					
Hum.	3			Fourth Year			
Total Hours	17	13			F	S	Su
Second Year				Relig.	2	2	
	F	S		Nurs. 421 (Block)	3		
Relig.	2	2		Nurs. 431 (Block)	4		
P.E.	½			Nurs. 475 (Block)	4		
Nurs. 202	6			Nurs. 485 (Block)	4		
Nurs. 212	6			Nurs. 478		3	3
Nurs. 300		6		Nurs. 488		5	5
				Nurs. 490		3	3
				Total Hours	17	13	11

Plan "A" is shown above. Plan "B" follows the same sequence of classes, but the final course is taken in the summer of the fourth year, with the classes listed for the summer of the first year being taken in the fall of the second year, etc.

All students enrolling through the fall of 1970 will follow the above curriculum. A new curriculum will begin in the spring of 1971.

BACCALAUREATE-DEGREE PROGRAM IN NURSING

Courses

- 202. Introductory Medical-Surgical Nursing.** (6:4:2) F.S. Prerequisites: Micro. 121; Physics 100; FSN 115; Zool. 261, 262; Chem. 101, 151; Psych. 111; Sociol. 111. Tillery
Assessment of patients' needs: emotional, spiritual, physiological, physical, social, and cultural.
- 212. Introductory Medical-Surgical Laboratory.** (6:0:18) F.S. Prerequisite: concurrent registration in Nurs. 202. Tillery
Selected laboratory experiences in a hospital setting to implement basic nursing skills.
- 288. Family Health and Home Nursing.** (1:1:1) F.S. Schmidt
For nonmajors. Essential knowledge and attitudes about healthful family living. Skills in giving home nursing care to the sick or injured. Essentials of maternal health and child care.
- 300. Intermediate Medical-Surgical Nursing.** (6:5:2) F.S. Prerequisites: Nurs. 202, 212, concurrent registration in Nurs. 310. Crane
Emphasizes metabolism, urinary and reproductive pathology, orthopedic problems, cardiac and respiratory disorders, blood dyscrasias, and sensory perception.
- 310. Intermediate Medical-Surgical Nursing Laboratory.** (5:0:15) F.S. Prerequisite: concurrent registration in Nurs. 300. Crane
Experience in applying scientific principles and problem-solving techniques in giving direct nursing care.
- 351. Maternal and Child Health Nursing.** (4:4:0) F.S. Prerequisites: Nurs. 300, 310; CDFR 210; concurrent registration in Sociol. 403 and Nurs. 361. Kennington, Potter
The health care of families, with a focus on mothers throughout the maternity cycle, newborn infants, and children.

- 361. Maternal and Child Health Nursing Laboratory.** (6:0:18) F.S. Prerequisites: concurrent registration in Nurs. 351. Kennington, Potter
Experience with mothers and children in physician's offices, clinics, schools, and in giving direct nursing care to mothers and children in hospitals.
- 375. Advanced Medical-Surgical Nursing.** (6:6:0) F.S. Prerequisites: Nurs. 300, 310, concurrent registration in Nurs. 385. Lyons
Complex problems of regulation of neurological, cardio-vascular, fluid and electrolyte function emphasized. Rehabilitation and disaster nursing principles are included.
- 385. Advanced Medical-Surgical Laboratory.** (5:0:15) F.S. Prerequisite: concurrent registration in Nurs. 375. Lyons
Experience in applying theoretical concepts to the care of seriously ill and/or long-term patients.
- 421. Mental Health and Psychiatric Nursing.** (3:6:0) F.S. (Eight-week block) Prerequisites: Psych. 111; Sociol. 111, CDFR 210, concurrent registration in Nurs. 431; consent of instructor. Hood, Young
Theoretical concepts of psychiatry, psychiatric nursing, and interpersonal relationships, including prevention and rehabilitation.
- 425. Home Nursing Instructorship.** (2:2:1) F.S. Prerequisite: completion of or concurrent registration in Ed. 301 or consent of instructor. Schmidt
Designed to develop skill in performing and teaching basic home nursing procedures necessary in care of the sick and injured and in mother and baby care. Completion of the course certifies students to teach a Red Cross class in these two areas.
- 431. Mental Health and Psychiatric Nursing Laboratory.** (4:0:24) F.S. (Eight-week block) Prerequisite: concurrent registration in Nurs. 421. Hood, Young
Experience in application of mental health concepts.
- 475. Principles of Public Health Sciences and Nursing.** (4:8:0) F.S. (Eight-week block) Prerequisites: Nurs. 351, 361, concurrent registration in Nurs. 485. Merrill
Concepts, principles, and organization of comprehensive family services in the home, school, and community. Included are public health principles and organization, epidemiology, vital statistics, and environmental health.
- 478. Leadership in Nursing.** (3:3:0) S.Su. Prerequisites: Nurs. 375, 385, 421, 431, 475, 485, concurrent registration in Nurs. 488. Bethers, Kingsolver
Principles of nursing leadership, with implications for comprehensive patient care.
- 485. Public Health Science and Nursing Laboratory.** (4:0:24) F.S. (Eight-week block) Prerequisite: concurrent registration in Nurs. 475. Merrill
Experience in giving comprehensive nursing care to families, and in working with allied professional workers and community agencies.
- 488. Leadership in Nursing Laboratory.** (5:0:15) S.Su. Prerequisite: concurrent registration in Nurs. 478. Bethers, Kingsolver
Experience in nursing leadership, with emphasis on professional responsibilities and functions.
- 490. Seminar in Professional Problems.** (3:3:0) S.Su. Prerequisites: concurrent registration in Nurs. 478, 488. Murphy
An analytical approach to the development of nursing, nursing organizations, and current issues in nursing.

ASSOCIATE-DEGREE PROGRAM IN NURSING

Curriculum Plan

For course descriptions and curriculum plan, refer to the Technical Institute section of this catalog.

Organization Behavior



Professor: Dyer (chairman).

Assistant Professors: J. Covey, S. Covey.

The Department of Organization Behavior is concerned with the influence that organization structure and operations have on the human efforts that contribute to achieving organizational goals. A central focus of the department is to train students in the understanding of organization influence and the processes of how to change organizations to maximize human contributions in organizations. The department has four main objectives:

1. To prepare students to become professionals in organization development. A new profession has emerged with positions variously called organization development specialists, change agents, organization consultants, management, and personnel training staff. This department would prepare students to move into these positions.
2. To prepare managers and administrators to understand the organization system more adequately so they can take appropriate steps to improve the organizations under their jurisdictions.
3. To help all students who plan to live and work within an organization context to understand the organization environment and understand how to make contributions towards creating more effective organization life.
4. To do research and development on problems of organizations as a service to organization clients of Brigham Young University and as a part of the training of graduate students.

Areas in the Organization Development Department

1. **Organization Behavior Theory.** Courses in this area look at the nature of organization structure and functioning, the influence of organizations on human effort, and the problems of organization change.
2. **Planned Organization Change.** This area is concerned with the improvement of human organizations. The nature of planned change is examined, and skills and strategies necessary for improving organizations will be developed in intensive laboratory and practicum classes.
3. **Organization Research.** Techniques and methods of research in organizations will be taught in this area. The emphasis is on action research.
4. **Training in Professional Organization Development Skills.** It is critical that the professional in this area be trained in the skills of directing organization change. Practicum courses in consulting, training, and organization change will be presented.

Courses

- ☐ **Business Management 321. Organizational Behavior and Administration.** (3:3:0)
F.S.Su. (m)

- **Business Management 421. Advanced Organizational Behavior and Administration.** (3:3:0) F.S. (m) Prerequisite: Bus. Mgt. 321.
- **Political Science 531. Principles of Public Organization and Management.** (3:3:0) S. (m) Prerequisite: Pol. Sci. 330.
- **Business Management 616. Organizational Behavior.** (3:3:0) F.
- **Political Science 631. Administrative Behavior.** (3:3:0) F.S.
- **Business Management 636. Human Relations.** (2:3:0)
- **Sociology 730. (Sociol.-Psych.) The Consultative Process.** (3:2:2) (Offered alternate years) Prerequisite: Psych. 357.
- **Sociology 757. (Sociol.-Psych.) Practicum in Group Development.** (3:1:4) Prerequisites: graduate standing in psychology or sociology; Sociol.-Psych. 357, 555; consent of instructor.



BYU Management and Organization Development Conference

Philosophy

Professors: Horsley, Madsen, Riddle, Yarn.

Associate Professors: Fort, Warner (chairman,
436 JRCL).

Assistant Professor: Cook.



No course in this area carries general education credit for religion.

An undergraduate minor may be obtained in this area, but no major is available. A graduate minor may be obtained in philosophy; for further information in this regard, refer to the Graduate School Catalog.

Requirements for a Philosophy Minor

An undergraduate philosophy minor requires a minimum of 16 hours of course work which must include all of the following courses: Phil. 101, 110, 321, and 322.

Courses

- 101. Logic and Language.** (3:3:0) F.S.Su. (G-ML m)
Principles of correct reasoning.
- 110. Introduction to Philosophy.** (3:3:0) F.S.Su. Home Study also. (G-HA m)
Development of student analytical skills through study of basic philosophical fields and issues.
- 211. Theory of Knowledge.** (3:3:0) F.S.Su. (G-HA m) Prerequisite: Phil. 110.
Cook, Riddle
Basic issues in the justification of knowledge claims and in the philosophy of perception.
- 212. Metaphysics.** (2:2:0) F.S.Su. (m) Warner
The categories in terms of which reality is conceived, including time, space, substance, existence, causation, and process.
- 213. Ethics.** (2:2:0) F.S.Su. (G-HA m) Fort, Yarn
Basic issues concerning the justification of moral standards and moral decisions.
- 214. Aesthetics.** (2:2:0) F.S.Su. (G-HA m) Horsley
Signification and response in the arts; standards of criticism; creativity; art and morality.
- 215. Philosophy of Religion.** (2:2:0) F.S.Su. (G-HA m) Madsen
Alternative views of the grounds of religious belief and their moral and social implications.
- 311. Philosophy of Language.** (2:2:0) F.S. (m) Warner
Traditional and contemporary theories of meaning and truth and their bearing on philosophical issues.
- 312. Philosophy of Mind.** (2:2:0) F.S. (m) Warner
The concept of mind and brain and their relationship; the self and self-knowledge; action and free agency.

- 316. Philosophy of Science.** (3:3:0) F.S.Su. (G-ML m) Prerequisite: Phil. 110.
Recommended: Phil. 101. Riddle
The conceptual foundations of modern science.
- 321. History of Ancient and Medieval Philosophy.** (4:4:0) F.S.Su. Prerequisite:
Phil. 110. Fort, Yarn
Major systems of thought in the Western tradition from the sixth
century B.C. to the fourteenth century A.D.
- 322. History of Modern Philosophy.** (4:4:0) F.S.Su. (m) Prerequisite: Phil. 110.
Fort, Warner, Yarn
Major systems of thought in the Western tradition from the fifteenth
century to the nineteenth century.
- 324. Contemporary Anglo-American Philosophy.** (3:3:0) F.S.Su. (m) (Prerequisite:
Phil. 110. Madsen
Pragmatism, positivism, and various linguistic approaches to philosophical
problems.
- 324. Contemporary Continental Philosophy.** (3:3:0) F.S.Su. (m) Prerequisite:
Phil. 110. Madsen
Existentialism, phenomenology, and Marxism.
- 413R. Topics in Ethics and Value Theory.** (2:2:0 ea.) F.S.Su.
Intensive study of selected issues in ethics, aesthetics, or theory of value.
- 421R. Topics in Ancient Philosophy.** (2:2:0 ea.) F.S.Su. Recommended: Phil.
321.
Intensive study of a selected figure, theme, or movement in the ancient
period.
- 422R. Topics in Medieval Philosophy.** (2:2:0 ea.) F.S.Su. Recommended: Phil.
321.
Intensive study of a selected figure, theme, or movement in the medieval
period.
- 423R. Topics in Modern Philosophy.** (2:2:0 ea.) Recommended: Phil. 322.
Intensive study of a selected figure, theme, or movement in the modern
period through the nineteenth century.
- 424R. Topics in Contemporary Philosophy.** (2:2:0 ea.) F.S.Su.
Intensive study of a selected figure, theme, or movement in the twen-
tieth century.
- 448R. Readings in Philosophy.** (1-4:1-4:0 ea.) F.S.Su.
- **Mathematics 508. Mathematical Logic.** (3:3:0)
- 515. Seminar in the Philosophy of Religion.** (2:2:0) F.S.Su. Madsen, Yarn
- 516. Seminar in Philosophy of Science.** (2:2:0) F.S.Su.
- 530. Seminar in Philosophical Analysis.** (2:2:0) F.S.Su.
Intensive application of philosophical method.
- 648R. Directed Readings in Philosophy.** (1-4:1-4:0 ea.) F.S.Su.

Physical Education

Professors: Allsen, Bangerter, Hart, Hartvigsen, Holbrook (chairman—women, 296 RB), C. Jensen, E. Kimball, Roundy (chairman—men, 270 SF).

Associate Professors: Call, Jarman, Johnson, Robison, Watts.

Assistant Professors: Bestor, Dixon, Fisher, Francis, Hawkes, A. Heaton, Hirst, Jacobson, J. Jensen, Michaelis, Moe, Tuckett, Valentine, Wallace, Witbeck.

Instructors: Allen, Apostol, Bunker, Chamberlain, Cryer, Davis, Edwards, Felt, Hansen, Harrison, Helm, Hudspeth, R. Kimball, Leishman, Miller, Morgeneegg, Roberson, Silvester, Tucker, Udall, Winterton.

Special Instructors: Gibb, Hyatt.



Each student registering at the University is required to complete one physical education activity course in the 100-199 series during each semester of his freshman and sophomore years. Men physical education majors and minors fulfill this requirement by completing courses 231 to 237. Women physical education majors and minors fulfill the requirement by completing courses 181, 182, 187, and 188. Transfer students must either have completed equivalent courses or they must complete them before graduation.

A large variety of activity courses are available. Participation in these courses provides students with increased sports knowledge, organic development, neuromuscular skill, and social contact in game situations. Most of the activities have great carry-over value in later life.

Men students are required to make a \$5.00 deposit on a towel and a padlock, \$4.00 of which is refundable at the close of the school year upon return of padlock and the last towel issued.

Exceptions: (1) Students who will complete a major in engineering science together with requirements for an air science commission are not subject to the physical education requirement. (2) Engineering science students who withdraw from the air science program after two years are exempt from one credit of physical education.

Any student desiring exemption from physical education for medical reasons must obtain an excuse from a Student Health Center physician and present it to the chairman of the physical education department. Adaptive physical education courses are held each semester for handicapped students. Students with handicaps are encouraged to contact the department for special counseling.

UNDERGRADUATE REQUIREMENTS (MEN AND WOMEN)

I. Physical Education—Men

A. All students majoring in physical education must complete the following courses in fulfilling their general education requirements:

	Hours
1. Biological Science:	
Zool. 261, 262	6
2. Physical Science:	
Chem. 101 or 105	3
Physics 100 or 105	4
3. Social Science:	
Psych. 111	3
Sociol. 111 or 112	3

4. Humanities:
Speech and Dram. Arts 102 2
5. Mathematics - Science - Language:
Math. 105 of 111 3 or 5
P.E. 462 3
6. Religion:
Relig. 365 2

B. Physical Education Major Requirements.

Students may major in physical education by completing 38-40 credits of the following:

1. Twenty-nine credit requirement of the following (core):
P.E. 180, 181, 231, 232, 233, 234, 235, 236, 237, 330, 341, 344, 378, 413, 446, 464; and two of the following: 370, 371, 372, 373, 374.
2. Ten credits are required from the following list in addition to the above requirements:
P.E. 182, 250, 264, 265, 280, 286, 314; no more than two of the following: 370, 371, 372, 373, 374; any of the following: 406, 411, 449, 474, 547; Health 381; and Rec. Ed. 570. (Health 381 is strongly recommended, especially for nonhealth minors planning to teach junior high school.)

C. Physical Education Minor Requirements.

Students may minor in physical education by completing the following:

1. Secondary (19-20 credit hours)
P.E. 180; 181; 235; two of the following: 231, 232, 233, 234, 236, 237; 330; 341, 344; two of the following: 370, 371, 372, 373, 374; and one of the following: 314, 413, 446, 464.
2. Elementary (15-16 credit hours)
P.E. 181, 182, 201 or 330, 231, 232, 234, 235, 237, 341*; 372 or 373; Health 121.
*Prerequisite: Zool. 261, 262, or equivalent.

D. Composite Major Requirements—Secondary.

Students may choose a composite major by having a dominant area in physical education, with related areas in health education and recreation education; or by choosing a dominant area in health education with related areas in physical education and recreation education. Students who choose dominance in physical education must also fulfill the general education requirements specified in section "A" above. The requirements for a composite major are as follows:

1. Dominant area in physical education: P.E. 180, 181, 231, 232, 233, 234, 235, 236, 237, 330, 341, 344, 378, 413, 446, 464; and two of the following: 370, 371, 372, 373, 374 (total of 28 hours).
2. Related areas in physical education: two of the following: P.E. 231, 232, 233, 234, 235, 236, 237, 201 or 330, 341, 344; and one of the following: 370, 371, 372, 373, 374 (total 12 hours).

E. Composite Major Requirements—Elementary.

Students should follow the Cycle II sheet provided by the education program for elementary education majors and complete the following requirements in physical education:

1. Take the physical education candidacy test at the published time on the first day of Fall Semester. (Contact Department of Physical Education—Women for details.)
2. Take courses as indicated.
During the freshman year complete

P.E. 103	1
P.E. 181	1
P.E. 187	1
P.E. 188	1

P.E. 241	2
During the sophomore year complete	
Zool. 261	4
P.E. 242	2
P.E. swimming	1 hour
P.E. 330	3
P.E. 341	3
P.E. 243	2
P.E. 182	$\frac{1}{2}$
During the junior year complete	
P.E. 344	3
P.E. 378	1
Health 121	2

3. Make arrangements with the Department of Physical Education—Women for completing a student teaching experience, P.E. 478, 4 hours ($\frac{1}{2}$ day for 8 weeks).

II. Physical Education—Women

Candidacy Test: All prospective major and minor students are assigned to physical education classes on the basis of performance on the candidacy test.

A. Physical Education Major Requirements (Certification).

All women students majoring in physical education are to take the courses listed in the following core program:

P.E. 241, 242, 243, 244, 286, 330, 341, 344, 378W, 388, 446; either 375 or 376; Health 121 (total 27 hours).

In addition, women physical education majors must choose either a sports emphasis or a dance emphasis.

1. Sports Emphasis:

Swimming (1 credit); P.E. 207, 245, 461, 472; two of the following: Youth Leadership 378, P.E. 314 or 413, Health 381 (total 14-15 credits).

2. Dance Emphasis:

P.E. 185, 186, 287, 288, 380, 383, 387, 389, 486 (total 13 credits).

Note: The following courses (which will help meet the general education requirements of the University) are prerequisites to required major courses in women's P.E.: P.E. 181, 182, 187, 188; Zool. 105, 261, 262. (Speech and Dram. Arts 102 and 121 are recommended by the State of Utah for certification. They will fill the general education humanities requirements. Health 381 is strongly recommended for those planning to teach in secondary schools.)

B. Composite Major Requirements (Certification).

A composite major consists of 28 semester credits in physical education and 16 credits in each of two of the following related fields: health education, driver and safety education, recreation, and dance. The courses for the composite major are as follows:

1. Dominant area in physical education (28 hours):

P.E. 207, 241, 242, 243, 244, 245, 286, 330, 341, 344, 376, 378W, 446.

2. Related areas (16 hours):

a. Sports Emphasis (16 hours): P.E. 286, 330, 341, 376; three of the following: 241, 242, 243, 244, 245; and 1 hour of P.E. elective.

b. Dance Emphasis (16 hours): P.E. 180, 183, 185, 186, 286, 287, 288, 380, 383, 387, 388, 389, 486.

C. Physical Education Major Requirements with Dance Emphasis (Non-certification).

P.E. 180, 181, 182, 183, 185, 186, 187, 188, 282, 283, 285, 286, 287, 288, 380, 383, 387, 388, 389, 486.

D. Physical Education Minor Requirements.

1. Sports Emphasis (Certification):

P.E. 286, 330, 341, 376; swimming (1 hour); Health 121 or Youth Leadership 378 if health major; 4 of the following: 241, 242, 243, 244, 245 (total 20 hours). P.E. 378W must be successfully completed if a physical education-sports emphasis minor is to be assigned to student teaching in this minor.

2. Dance Emphasis (Certification):

P.E. 185, 186, 286*, 287, 288, 330, 380, 383, 387, 388, 389, 486; one from the following: 241, 242, 243, 244, 245 (total 20 hours).

*Physical education-sports emphasis majors substitute P.E. 283, 284, or 285. P.E. 378W must be successfully completed if a physical education-dance emphasis minor is to be assigned to student teaching in this minor.

3. Dance Emphasis (Noncertification):

P.E. 180, 183, 185, 186, 286, 287, 288, 380, 383, 387, 388, 389, 486 (total 16 hours).

4. Elementary Curriculum Minor (Certification):

P.E. 181, 182, 241, 242, 243, 330, *341; Health 121 (total 15 hours).

Note: In addition, the Education Department requires of all students P.E. 103, P.E. 184, plus two courses selected from the list of service courses, and P.E. 375 or 376.

*Prerequisites: Zool. 261, 262, or equivalent.

III. Prephysical Therapy—Men or Women:

Prephysical therapy is a preprofessional program designed to prepare the student for acceptance into a school of physical therapy. The student should keep in mind that this is a preprofessional program designed for that purpose only.

Students transferring into prephysical therapy must have an accumulative GPA of 2.50 or better. If a student is to remain competitive with regards to acceptance into physical therapy school he should maintain a 3.0 or better GPA.

Prephysical therapy students may follow one of two plans to prepare themselves for professional schools.

Plan A—Four-Year Preprofessional Program

Freshman Year			
	Hours		
Relig.	4	Zool. 261, 262	6
Engl. comp.	6	P.E.	1
Health 130	2	Physics 105, 106	8
Math. (101), 111 or			33
105, 106	5-6	Junior Year	
Micro. 121	3		Hours
P.E.	1	Relig.	4
Sociol. 112	3	P.E. 341	3
Psych. 111	3	P.E. 344	3
Hist. 170	3	Psych. 385	3
	—	Zool. 276	3
	30-31	Engl. 316	2
Sophomore Year		Chem. 105	5
	Hours	Speech and Dram. Arts 102	2
Relig.	4	Psych. 320 or 321	3
Hum.	6	Health 451 or Micro. 311	2
Chem. 101	4	Health 121	2
Zool. 203	4	Electives	2
			34

Senior Year			
	Hours		
Relig.	4	Health 561	3
P.E. 446	3	Health 660	3
P.E. 462	3	P.E. 645	2
Psych. 440	3	P.E. 379	1
Rec. Ed. 570	2	Zool. 583	3
P.E. 449	3	Electives	2
			<hr/> 32

Upon completion of Plan A, a student graduates with a B.S. degree with a major in physical education (prephysical therapy emphasis). A student would then be eligible to enter one of a number of approved schools, located throughout the United States, offering a certificate or master's degree program. The length of physical therapy programs is approximately 14 months for a certificate and two years for a master's degree.

Plan B—Two-Year Preprofessional Program

Freshman Year		Sophomore Year	
	Hours		Hours
Relig.	4	Relig.	4
Engl. comp.	6	Hum.	6
Health 130	2	Chem. 101	4
Math. (101), 111 or		Zool. 261, 262	6
105, 106	5-6	Sociol. 112	3
Micro. 121	3	P.E.	1
P.E.	1	Physics 105, 106	8
Hist. 170	3		<hr/> 32
Zool. 203	4		
Psych. 111	3		
	<hr/>		

31-32

Upon completion of Plan B, a student would be eligible to enter one of a number of approved schools offering a bachelor's degree in physical therapy. The length of course is two years plus clinical affiliations.

IV. Elementary Education and Physical Education Composite Major.

See department chairman for course requirements.

Courses

Required Activity Courses

- | | |
|--|---------|
| 103. Skill Analysis and Application. ($\frac{1}{2}$:0:3) F.S. | Hirst |
| Instruction and drill in basic skills. | |
| 104. Recreational Sports. ($\frac{1}{2}$:0:2-3) F.S.Su. | |
| 105. Basic Skill in Individual Sports. ($\frac{1}{2}$:2-3:0) F.S.Su. Prerequisite: consent of instructor. | |
| 108. Precision Marching, Beginning. ($\frac{1}{2}$:0:3) F. | Hyatt |
| 109. Precision Marching, Intermediate. ($\frac{1}{2}$:0:3) S. Prerequisite: P.E. 108, consent of instructor. | Hyatt |
| 110. Fencing, Beginning. ($\frac{1}{2}$:0:2-3) F.S. | deHoyos |
| 113. Wrestling, Beginning. ($\frac{1}{2}$:0:2) F.S. | |
| 114. Wrestling, Intermediate. ($\frac{1}{2}$:0:2) F.S. Prerequisite: P.E. 113 or equivalent. | |
| 115. Squash, Beginning. ($\frac{1}{2}$:0:2-3) F.S. | |
| 117. Paddleball, Beginning. ($\frac{1}{2}$:0:2-3) F.S. | |
| 119. Handball, Beginning. ($\frac{1}{2}$:0:2-3) F.S. | |

121. **Track and Field, Beginning.** ($\frac{1}{2}$:0:2) F. James, Robison
122. **Track and Field, Intermediate.** ($\frac{1}{2}$:0:2) S. James, Robison
123. **Badminton, Beginning.** ($\frac{1}{2}$:0:2) F.S.Su. Valentine
126. **Archery, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. Jacobson
127. **Archery, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: P.E. 126 or equivalent.
128. **Bowling, Beginning.** ($\frac{1}{2}$:0:5) F.S.Su. Fee. Dixon, Valentine
131. **Golf, Beginning.** ($\frac{1}{2}$:0:2) F.S.Su. Tucker
132. **Golf, Intermediate.** ($\frac{1}{2}$:0:2) F.S.Su. Prerequisite: P.E. 131 or equivalent.
133. **Tennis, Beginning.** ($\frac{1}{2}$:0:2) F.S.Su. Dixon, Valentine
134. **Tennis, Intermediate.** ($\frac{1}{2}$:0:2) F.S.Su. Prerequisite: P.E. 133 or equivalent.
135. **Rugby, Beginning.** ($\frac{1}{2}$:0:2-3)
136. **Rugby, Intermediate.** ($\frac{1}{2}$:3:1 $\frac{1}{2}$) (Offered 1970 and alternate years. Prerequisite: P.E. 135. Seggar
140. **Basketball, Beginning.** ($\frac{1}{2}$:0:2) F.S. Michaelis, Witbeck
141. **Basketball, Intermediate.** ($\frac{1}{2}$:0:2) F.S. Prerequisite: P.E. 140 or equivalent.
142. **Speedball, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.
144. **Volleyball, Beginning.** ($\frac{1}{2}$:0:2) F.S.Su. Michaelis
145. **Volleyball, Intermediate (Men).** ($\frac{1}{2}$:0:2-3) F.S.
147. **Soccer, Beginning.** ($\frac{1}{2}$:0:2-3) F.S. Wallace
148. **Soccer, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S.
149. **Field Sports.** ($\frac{1}{2}$:0:2-3) F.S. Wallace
152. **Softball.** ($\frac{1}{2}$:0:2-3) F.
154. **Football, Beginning.** ($\frac{1}{2}$:0:5) F. Felt
155. **Football, Intermediate.** ($\frac{1}{2}$:0:5) F. Hudspeth
156. **Baseball, Beginning.** ($\frac{1}{2}$:0:5) F.S. Tuckett
157. **Baseball, Intermediate.** ($\frac{1}{2}$:0:5) S. Tuckett
160. **Swimming, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. Hirst, Wallace
161. **Swimming, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S.Su. Prerequisite: P.E. 160. Cryer, Wallace
162. **Synchronized Swimming, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su.
163. **Synchronized Swimming, Intermediate.** ($\frac{1}{2}$:0:2-3) Prerequisite: P.E. 162.
164. **Water Polo.** ($\frac{1}{2}$:0:2-3) F.S. Cryer
166. **Canoeing.** ($\frac{1}{2}$:0:4) F.S.Su. Prerequisite: pass swimming test. Hirst, Wallace
168. **Diving, Beginning.** ($\frac{1}{2}$:0:2-3) F.S. Wallace
169. **Swimming for the Handicapped.** ($\frac{1}{2}$:0:2) Hirst
171. **Trampoline and Tumbling.** ($\frac{1}{2}$:0:2) F.S. Wallace
172. **Rhythmic Gymnastics.** ($\frac{1}{2}$:0:2-3) F.S.Su.
173. **Gymnastics, Beginning.** ($\frac{1}{2}$:0:2) F.S. Morgenegg, Wallace

174. **Gymnastics, Intermediate.** ($\frac{1}{2}$:0:2) F.S. Prerequisite: P.E. 173 or equivalent.
Morgenegg, Wallace
- 175R. **Adaptive Physical Education.** ($\frac{1}{2}$:0:2ea.) F.S.Su. Prerequisite: consent of instructor or referral by Health Center.
176. **Activities for Fitness.** ($\frac{1}{2}$:0:2-3) F.S.Su. Allsen, Hirst, Jacobson
177. **Principles and Methods of Body Mechanics.** ($\frac{1}{2}$:0:2-3) F.S.Su. Hirst
178. **Progressive Weight Training, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. Silvester
180. **Social Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. A. Heaton
181. **Folk Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. M. Jensen
182. **Square Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. M. Jensen
183. **Specialty Dance—Theatre.** ($\frac{1}{2}$:0:2-3) F.S. Winterton
184. **Rhythm and Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. A. Heaton
American and foreign dance forms with their application and organization in folk, round, and square dance sequences.
185. **Ballet Technique, Beginning.** ($\frac{1}{2}$:0:2-3) F.S. Allen, Gibb
186. **Ballet Technique, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: P.E. 185 or equivalent.
Allen, Gibb
187. **Modern Dance, Beginning.** ($\frac{1}{2}$:0:2-3) F.S.Su. Gibb, Hyatt, J. Jensen,
188. **Modern Dance, Intermediate.** ($\frac{1}{2}$:0:2-3) F.S. Prerequisite: P.E. 187 or equivalent.
Gibb, Hyatt, J. Jensen
189. **Beginning Latin-American Dance.** ($\frac{1}{2}$:0:2-3) F.S.Su. deHoyos
192. **Outing Activities.** ($\frac{1}{2}$:0:3-5) F.S.Su.
Selected seasonal activities which may include walking, nature observation and study, horseback riding, snowshoeing, coasting, bicycling, roller skating, canoeing, sleighing, ice skating, tracking and trailing, and outdoor cookery.
193. **Ice Skating, Beginning.** ($\frac{1}{2}$:0:2) F.S.
194. **Ice Skating, Intermediate.** ($\frac{1}{2}$:0:2) F.S. Prerequisite: P.E. 193 or equivalent.
195. **Skiing, Beginning.** ($\frac{1}{2}$:0:5) F.S. Tucker
First-year skiing for participants of varying abilities. Sections formed on the basis of ability, with instruction suited to varying skill levels in fundamentals of skiing. The student furnishes his ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)
196. **Skiing, Intermediate.** ($\frac{1}{2}$:0:5) F.S. Tucker
Second-year skiing for participants of varying abilities. Classification for instruction based upon ability. The student furnishes all his ski equipment and pays ski tow fees. Fee. (Permission to withdraw with refund restricted.)
201. **Introduction to Physical Education.** (2:2:0) F.S.Su. Jarman, Johnson
207. **Sports Officiating (Women).** (2:1:3) F.S. Wallace
Rules, techniques, problems, and procedures in officiating softball, volleyball, and basketball. O.S.A. national examinations given.
231. **Sports Fundamentals for Majors.** (1:0:3) F.S. Bunker, Roundy
Flag football, soccer.
232. **Sports Fundamentals for Majors.** (1:0:3) F.S. Johnson, Morgenegg
Gymnastics, tumbling.

233. **Sports Fundamentals for Majors.** (1:0:3) F.S. Allsen, Silvester
Archery, badminton.
234. **Sports Fundamentals for Majors.** (1:0:3) F.S. Fisher, Tucker
Volleyball, golf.
235. **Sports Fundamentals for Majors.** (1:0:3) S. Cryer
Swimming.
236. **Sports Fundamentals for Majors.** (1:0:3) F.S. Moe, Silvester
Tennis, weight training.
237. **Sports Fundamentals for Majors.** (1:0:3) F.S. Bunker
Calisthenics, games, and relays.
241. **Skills and Teaching Techniques.** (2:0:4) F. Hirst
Soccer, speedball, volleyball, conditioning and body mechanics.
242. **Skills and Teaching Techniques.** (2:0:4) S. Hawkes
Outdoor games, track and field, softball, marching, and gym apparatus.
243. **Skills and Teaching Techniques.** (2:2:4) S. Wallace
Tumbling, trampoline, and gymnastics.
244. **Skills and Teaching Techniques.** (2:0:4) F. Hirst, Valentine
Hockey, badminton, basketball, recreational games, and rope jumping.
245. **Skills and Teaching Techniques.** (2:0:4) S. Jacobson, Valentine
Archery, golf, bowling, tennis.
250. **Ski Instruction Methods.** (1:0:4) F. Bounous
Instruction course in skiing for those who wish to qualify as student
instructors in the ski program.
261. **Swimming, Advanced.** (1:0:3) F.S. Wallace
264. **Life Saving.** (1:0:3) S. Hirst, Wallace
265. **Water Safety Instruction.** (1:0:3) F.S.Su. Hirst, Wallace
268. **Diving, Intermediate.** (1:0:3) F.S.Su. Bestor
279. **Folk Dance Teaching Techniques.** (1:1:2) S. M. Jensen
280. **Social Dance Teaching Techniques.** (1:0:2-3) F.S.Su. Prerequisite: P.E. 180.
A. Heaton
281. **International-Style Ballroom Dance, Intermediate.** (1:0:3) Prerequisites:
P.E. 180, 189. Mavor
282. **Advanced Square Dance and Calling Techniques.** (1:3:0) F.S. Prerequisite:
P.E. 182. M. Jensen
283. **Social Dance, Advanced.** (1:0:2-3) F.S. A. Heaton, Mavor
284. **Folk Dance, Advanced.** (1:0:2-3) F.S. M. Jensen
285. **Latin-American Dance.** (1:0:2-3) F.S. deHoyos
286. **Teaching Dance in Secondary Schools (Social, Folk, and Square Dance).**
(1:1:2) Prerequisites: P.E. 180, 181, 182, or equivalent.
Methods of teaching social, square, and folk dance in secondary schools.
287. **Modern Dance Technique, Intermediate.** (2:0:6) F. Prerequisites: P.E. 187,
188. J. Jensen
Guided exploration in dance techniques leading toward composition.
288. **Modern Dance Technique, Advanced.** (2:0:6) S. Prerequisite: P.E. 287.
J. Jensen
Technique and form for composition.

290. **Ballet Technique, Advanced.** (1:0:2-3) F.S. Prerequisites: P.E. 185, 186.
Gibb
314. **Intramural Sports.** (2:2:0) F.S. Michaelis, Silvester
330. **Principles of Physical Education.** (3:3:0) F.S. Hawkes, Holbrook, Jarman
The principle of physical education and the relationship of physical education to total education.
341. **General Kinesiology.** (3:3:0) F.S.Su. Prerequisites: Zool. 261, 262, or equivalent.
Bangerter, Call, Jensen
344. **Physiology of Activity.** (3:3:0) F.S.Su. Prerequisites: Zool. 261, 262.
Allsen, Fisher, Johnson
A course in applied human anatomy and physiology.
368. **Prephysical Therapy Practicum.** (1:0:2-3) Prerequisite: P.E. 446. Francis
370. **Wrestling Fundamentals and Coaching (Men).** (2:1:2) F.S. For physical education majors only.
Davis
Theory, fundamentals, and techniques of coaching, wrestling, including some emphasis on management of meets and tournaments.
371. **Football Fundamentals and Coaching.** (2:1:2) F.S. Hudspeth
372. **Basketball Fundamentals and Coaching.** (2:1:2) F.S. Watts
Theory and fundamentals of offensive and defensive systems.
373. **Track and Field Fundamentals and Coaching.** (2:1:2) F.S. Robison
Theory, fundamentals, and techniques of track and field athletics.
374. **Baseball Fundamentals and Coaching.** (2:1:2) F.S. Tuckett
Theory, fundamentals, and techniques of baseball.
375. **Physical Education for Teachers of Primary Grades.** (2:0:4) F.S.Su. Prerequisites: P.E. 103, 184, or equivalent.
Hirst, Jacobsen, Michaelis
Analysis and development of skills and application of methods in teaching K-3.
376. **Physical Education for Teachers of Intermediate Grades.** (2:0:4) F.S.Su. Prerequisites: P.E. 103, 184, or equivalent.
Hirst, Jacobsen, Michaelis
Analysis and development of skills and application of methods in teaching grades 4-6.
377. **Secondary Teaching Methods and Procedures.** (3:3:1) F.S. Prerequisite: Ed. 301.
Bangerter, Jarman, Moe
See Ed. 377 for description.
378. **Physical Education Practicum.** (1:0:2-3) F.S. Allsen
379. **Physical Education for Special Education Teachers.** (2:2:2) F.S. Prerequisites: P.E. 103, 184. Francis
380. **Modern Dance Production.** (2:3:0) F. Prerequisites: P.E. 287, 288. Gibb
- 381A,B. **Modern Dance Choreography.** (1:3:0 ea.) F. Gibb
383. **Rhythm Analysis for Dance.** (1:3:0) S. J. Jensen
The analysis of rhythm, its relationship to movement, and its form of sound and musical accompaniment.
384. **Folk Dance Performance Techniques.** (1:0:3) Prerequisites: P.E. 181, 182, 284. M. Jensen
386. **International-Style Ballroom Dance.** (1:0:3) F. Prerequisite: P.E. 281. Mavor
387. **Modern Dance Composition, Intermediate.** (1:0:4) F. Prerequisites: P.E. 187, 188. J. Jensen
Fundamental composition forms, with emphasis on locomotor movement and spatial elements.

388. **Teaching Methods in Modern Dance.** (1:0:4) S. Prerequisites: P.E. 187, 188.
J. Jensen
Techniques, methods, audio-visual aids in teaching modern dance.
389. **Modern Dance Improvisation.** (1:0:4) Gibb
406. **Sports Officiating.** (2:2:1) F.S. Bunker
Rules, techniques, problems, and procedures in officiating football, basketball, and other team and individual sports. Suggested for those desiring to officiate in the intramural program.
411. **Problems in Interschool Athletics.** (2:2:0) F.S. E. Kimball
413. **Organization and Administration of Physical Education.** (2:2:0) F.S. Home Study also. Prerequisite: senior standing. E. Kimball
Administrative problems arising out of organizing and conducting health, physical education, and recreation programs in schools and communities.
446. **Adaptive and Corrective Physical Education.** (3:3:0) F.S.Su. Call, Francis
Fundamentals of body mechanics and therapeutic exercise, coupled with kinesiological principles in preparing the student in the detection and correction of basic neuromusculoskeletal anomalies.
449. **Problems of Athletic Injuries.** (3:3:1) F.S.Su. Prerequisite: P.E. 446.
Call, Francis
Designed for prospective coaches, trainers, health and physical educators; to aid in the recognition, evaluation and care of athletic injuries. Techniques in taping, prevention, and rehabilitation of injuries.
461. **Tests and Measurements for Women.** (3:3:0) F.S.Su. Hirst
Elementary statistical methods and tests as they apply to the teaching of physical education.
462. **Elementary Statistics for Health and Physical Education.** (3:3:0) F.S.Su. Prerequisite: Math. 105 or equivalent. Jensen, Roundy
Counts toward 6-hour science requirement.
464. **Introduction to Tests in Health and Physical Education.** (2:2:0) F.S.Su. Prerequisite: P.E. 462. Hart, Roundy
Introduction to the history and development of measurement in health and physical education. Description of important tests, with emphasis on techniques of test administration and application of results.
470. **Teaching Progression in Individual Sports (Women).** (2:4:0) S. Jacobson, Jones
Materials, methods, and teaching progression in individual sports, including archery, badminton, bowling, golf, and tennis.
- 471A,B,C. **Workshop in Individual Sports.** (1:combination of 40 hrs. ea.) Su. (Offered on demand) Jacobsen, Valentine
Teaching techniques and skill progression in individual sports, including archery, badminton, bowling, tennis, or golf.
472. **Teaching Progression in Team Sports (Women).** (2:2:2) F.S. Hirst
Materials, methods, and teaching progression in team sports.
- 473A,B,C. **Workshop in Team Sports.** (1:combination of 40 hrs. ea.) Su. (Offered on demand) Michaelis
Teaching techniques and skill progression in team sports such as basketball, field hockey, softball, or volleyball.
474. **Teaching Techniques in Gymnastics.** (2:1:2) F. Bangerter, Moe
- 475R. **Workshop in Gymnastics.** (1:combination of 40 hrs. ea.) Su. (Offered on demand) Wallace
Teaching techniques and skill progression in gymnastics.

478. **Elementary Student Teaching.** (4:1:7) Prerequisite: completion of courses in composite major. Jacobsen
479. **Secondary Student Teaching.** (8:1:15) F.S. Bangerter, Jacobsen, Jarman, Moe, Valentine
486. **History and Philosophy of Dance.** (3:3:0) F. J. Jensen
History and philosophies of dance and dancers and the significance of these ideas in view of their effect on modern educational and cultural uses of dance.
547. **Advanced Corrective Physical Education.** (2:2:1) Prerequisite: P.E. 446. Call
Techniques of postural evaluation, muscle testing, therapeutic exercises, and relaxation; extent and limitations of the physical educator's responsibility for recognition of divergent conditions and referral procedures.
575. **Materials and Methods for Secondary Teachers.** (2:1:2) F. Hirst
- 589A,B,C. **Workshop in Modern Dance.** (1-2:Arr.:0 ea.)
601. **Problems in Physical Education.** (2:3:0) F. Bangerter
Identification and interpretation of the nine generalized problems in physical education.
610. **Philosophy of Physical Education.** (2:2:0) F. Holbrook
Interpretations, beliefs, and concepts underlying the profession of physical education.
631. **Problems in Athletic Conditioning.** (2:2:0) F. Allsen, Jensen
Application of scientific principles to problems in athletic conditioning.
633. **Physical Education for the Mentally Retarded.** (2:2:0) F. Prerequisite: bachelor's degree in physical education. Call
Theory, concepts, and programs in physical education for trainable and educable mentally retarded.
635. **Research Design in Physical Education.** (2:2:1) Prerequisites: P.E. 462, 464; or equivalent. Roundy
640. **Curriculum Construction in Physical Education.** (2:2:0) S. Hart
Curriculum problems for elementary, secondary, and college physical education programs.
642. **Mechanical Analysis of Activities.** (2:2:0) S. Bangerter
Analysis of the mechanics of movement in various activities to develop the highest degree of skill.
645. **Functional Anatomy and Kinesiology.** (2:2:0) S. Prerequisites: Zool. 105, 261, 262; P.E. 341, 344, 446, 449, or equivalent. Call
Functional applied anatomy and kinesiology for physical education students.
647. **Physiology of Strength and Endurance.** (2:2:0) F. Prerequisites: Zool. 105, 261, 262; P.E. 341, 344, 446, 449. Allsen, Fisher
Physiology of strength of the musculoskeletal system and endurance of the cardiovascular system.
648. **Theory of Motor Learning.** (2:2:0) S. Allsen, Johnson
Theories and methods of learning physical skills.
662. **Administration and Public Relations.** (3:3:0) F. Hartvigsen
Administrative and public relations problems at all school levels: local, state, and national.
663. **Planning Facilities.** (2:2:0) S. E. Kimball
Basic planning for facilities for school and community physical education and recreation programs.

- 670. History of Physical Education.** (3:3:0) S. Holbrook
History of physical education from ancient civilization to present day.
- 673. Physical Education in the Elementary School.** (3:3:0) Su. Holbrook
Curricular interrelationships, and content material in accomplishing educational results. For teachers, administrators, and supervisors.
- 674A,B,C. Workshop in Physical Education in the Elementary Schools.** (1:combination of 40 hrs. ea) (Offered on demand) Jacobsen
Materials, methods, and teaching progression in physical education for the elementary school.
- 690. Seminar.** (2:2:0) F.S.Su. Prerequisite: provisional admission to Ed.D. program.
- 692. Research Methods in Physical Education.** (3:3:0) F.Su. Fisher, Roundy
- 694. Individual Study.** (2:1:1) F.S.Su. E. Kimball
Readings from recently published professional literature.
- 696. Seminar in Problems.** (1:1:0) S.
- 698. Field Project, Master's Degree.** (1-6:0:Arr.) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
- 780. Professional Preparation.** (2:2:0) F. Prerequisite: completion of graduate courses, and experience in college instruction and teacher education. Holbrook, Roundy
Program for preparation of professional physical educators at the undergraduate and graduate levels.
- 797. Individual Research in Physical Education.** (2-6:Arr.:Arr.) S. Prerequisites: undergraduate major in physical education; matriculation for graduate study in the department.
- 799. Dissertation for the Ed.D. Degree.** (12:Arr.:Arr.)



Coed tennis class receiving instruction

Physical Science

Professor: L. Compton (coordinator, 183 FOB).

Associate Professors: Peterson, Wickes.

Assistant Professor: Wight.



An interdisciplinary area only serving chemistry, earth science, geology, mathematics, and physics.

Courses

377. Secondary Teaching Curriculum and Methods. (3:3:1) F.S. Prerequisite: Ed. 301.

Designed for mathematics and physical science majors in education.

For course description and fees, see Ed. 377.

479. Secondary Student Teaching. (5-8:1:20-40) F.S. Prerequisite: Phys. Sci. 377 or equivalent.

For course description and fees, see Ed. 479.

☐ **Education 493, 494. Independent Reading.** (1-2:1-2:0 ea.)

☐ **Education 630. Teaching Science in Secondary Schools.** (2:2:0)

Physics and Astronomy



Professors: Barnett, Decker, Dixon, Dudley, Eastmond, Fletcher, A. L. Gardner, J. H. Gardner (chairman, 296 ESC), Hales, A. Hill, M. Hill, McNamara, Nelson, Vanfleet.

Associate Professors: Ballif, Dibble, Hansen, Harrison, Jones, Larson.

Assistant Professors: Geertsen, Hatch, Jensen, Jones, Miller, Nielsen, Rogers, Strong, Woodford.

Instructor: Merrill.

The curriculum of the Department of Physics and Astronomy is designed to provide (1) training for students who intend to pursue graduate work in physics or astronomy; (2) preparation for students who intend to enter industrial or governmental service as physicists or astronomers; (3) a fundamental background for other physical sciences and engineering; (4) the broadening program required by the biological science, premedical, pre dental, and nursing programs; (5) training in the subject matter of physics for prospective teachers of the physical sciences; and (6) a perspective of science and an introduction to the role of physics in the human quest for understanding.

Students who expect to major in physics, other physical sciences, or engineering should begin their study of physics by electing Physics 121 and 122 or, if the study of physics is to begin in the second year, Physics 211 and 213. Those who expect to study medicine, or dentistry, or to major in the biological sciences may elect Physics 201 and 202, although the series beginning with 211 is preferred for those having some background in calculus. Students who desire an elementary course in applied physics should take Physics 105 and 106.

Nonscience students may elect with profit Physics 100, 101, 110, or 300 which emphasizes the role of physics as one of the humanities as well as a science; or Physics 127, 129, 130, 137, 167, or 177 which are organized with the object of giving the student an understanding of certain broad features of his physical environment.

Students expecting to use physics as a teaching major or minor or as part of a composite teaching major should refer to the part of this catalog concerned with the subject matter preparation of secondary school teachers. They are also invited to consider the MA-3 program beginning in the junior year which is described below under the corresponding heading.

Students who wish to pursue a career in engineering but want a strong physics background may be interested in following one of the MS-3 programs described below.

Majors in Physics

The Department of Physics and Astronomy offers programs leading to the Bachelor of Science and Bachelor of Arts degrees. The former is intended for those students who intend to pursue a career in research or in teaching on the college level. The latter is a liberal arts degree and may profitably be elected by those who intend to pursue careers in secondary or junior college teaching, business administration, engineering, etc.

Requirements for the B.S. Degree

For a student to graduate with the Bachelor of Science degree, he must successfully complete the following courses: Physics 121, 122, 221 (or 211, 213), 222, 214, 316, 317 (or Math. 244), 318 (or Math. 436), 321, 322, 341, 342, 386, 387, and six or more credit hours selected from the 300, 400, or 500 series in the department; and Math. 112, 113, 214, 434, or their equivalent. Successful com-

pletion of these courses implies, for physics majors, attaining a grade of "C" or better.

Requirements for the B.A. Degree

For the B.A. degree, the student must successfully complete the following courses; Physics 121, 122, 221, (or 211, 213), 222, 214, 300, 316, 321, 322 (341 and 386 may be substituted for 322); and Math. 112, 113, 214, 434 (or their equivalents), and a second approved 14-hour field of concentration outside the department.

Physics-Astronomy Option

Physics majors whose primary interest is astronomy or astrophysics must take the same basic courses listed under the requirements for a physics major. It is recommended that these students take Physics 129 and 130 during the freshman year. They should also include Physics 521, 522 and Physics 527, 528 as part of their program in the senior year.

Suggested Courses for Physics Majors

Language. The student is strongly urged to achieve competence in a foreign language (German, Russian, or French) during his undergraduate career, particularly if he intends to go to Graduate School. A summer program in French, German, or Russian would be highly advantageous. French 95, 96, or German 95, 96 might be considered.

Religion. It is suggested that the student take advantage of the opportunity to replace four hours of religion credit during the senior year by the four-year accumulation of four hours of credit for devotional assembly.

Mathematics. Students in physics should take mathematics the first semester of the freshman year. The course with which one begins his training in mathematics is determined by the results of the mathematics placement test taken prior to registration. Normally the student will begin with Math. 112 or 141, but inadequate mathematics preparation in high school may make it necessary for him to begin with Math. 111. In the latter case he should begin his physics second semester. He can get back into step through a summer course.

Successful completion of Math. 214 and Physics 221 or their equivalents is prerequisite to all courses above Physics 300.

Proposed Program. The following program is recommended in order for the student to satisfy the general education requirements and at the same time obtain sufficient understanding in undergraduate physics for a career in physics or the pursuit of graduate work. A core of four courses plus religion and physical education is scheduled for each semester. It should be noted that this program includes more courses than are required for graduation. For minimum requirements, see above; considerably more flexibility is possible than is evident in the schedule below. However, the program outlined is designed for students who plan to take the graduate record examination during the senior year. This examination is generally required for admission to Graduate School. The first two years of this program provide a foundation for a degree in any of the sciences, engineering, or mathematics.

Freshman Year			Sophomore Year		
	F	S		F	S
*Physics 121, 122	3	3	Physics 221, 222	3	3
Math. 112, 113			Physics 214, 316	1	1
(or 141, 142)	4	4	Math. 214; Physics 317		
Engl.	3	3	(or Math. 243, 244) ..	3	3
**Chem. 111; 112, 113			Electives (hum.)	3	3
(or 105, 106)	3	5	Electives (soc. sci.)	3	2
Relig.	2	2	Health; Hist. 170	2	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	2
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	P.E.; dev. assy.	1	1
<hr/>			<hr/>		
Total Hours	16	18	Total Hours	18	18

Junior Year			Senior Year		
	F	S		F	S
Physics 321, 322	4	4	Physics 431, 471	3	3
Physics 341, 342	3	3	Physics 517, 518	3	3
Math. 434; Physics 318	3	3	Physics 551, 552	3	3
Physics 386, 387	1	2	Elective	5	5
Elective (biol. sci.)	3	3	Forum and dev. assy.	1	1
Relig.	2	2			
Forum and dev. assy.	1	1			
			Total Hours	15	15
Total Hours	17	18			

*Students who do not begin their physics until the sophomore year should take Physics 211, 213, in place of Physics 121, 122, 221.

**Physics-astronomy majors may add Physics 129 first semester and substitute Physics 130 for Chem. 113 second semester. They should also include Physics 527, 528, and 521, 522, in their program during the senior year.

Nuclear Engineering Emphasis

A student who wishes to become familiar with reactor physics or nuclear engineering is advised to take Ch.E. 374 and 376 in either his junior or senior year. In addition, Physics 555 or Ch.E. 582 should be taken if the student's curriculum permits. Graduate students may obtain a nuclear engineering minor by taking Physics 555, 557, and Ch.E. 582 and 682.

Physics Minor

A recommended program for the physics minor is Physics 121, 122, 221, 222, 214, 316 (or Physics 211, 213, 214, 222 and 316).

MA-3 Program for Secondary and Junior College Teachers

A student who plans to teach in the secondary school or in junior college should consider the B.A. degree. The requirements for this degree are such that he can complete certification in Utah and obtain the degree in four years even though he decides on a physics major relatively late in his college career. He may then continue into an M.A. program to further qualify himself for a teaching career. The MA-3 program outlined below exhibits a possible program leading to the B.A. and M.A. degrees in physics beginning in the junior year. If the student is interested only in junior college teaching, the program can be considerably simplified by the elimination of the physical science and education courses and the use of Ed. 640, 642, and 644 for the graduate minor.

Prerequisites: Math. 111, 112; G.E. requirements outside of the physical sciences and mathematics.

Junior Year				Senior Year			
	F	S	Su		F	S	Su
Math. 113, 214, 434 ..	4	3	3	Physics 222, 316	4		
Ed. 301	2			Math. 434, 371	3		3
Physics 211; 213, 214	5	5		Physics 341	3		
Physics 317, 300		3	3	Physics 321	4		
Phys. sci. 377		3		Physics 386	1		
Relig.	2		2	Phys. Sci. 479		8	
Math. 301, 302	3	3		Ed. 310			2
Chem. 105			4	Ed. 403		4	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$		Health 362	2		
				Ed. 415			2
				Relig.		2	2
Total Hours	16 $\frac{1}{2}$	17 $\frac{1}{2}$	12	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	
				Total Hours	17 $\frac{1}{2}$	14 $\frac{1}{2}$	9

Graduate Year			Physics 699 (thesis) ..			6
	F	S	Su			
Physics 511	3			Total Hours	12	12
Physics 551, 552	3	3				6
Two-semester				Suggested minors:		
physics series	3	3		Math. 387, 501, 502; Ed. 640, 642,		
Minor	3	6		644.		

MS-3 and ME-3 Programs for Physicists and Engineers

Students who desire to obtain an engineering degree with a strong physics and mathematics emphasis are invited to consider the MS-3 (with thesis) and ME-3 (without thesis) program. These begin in the junior year and are available to students who have completed the foundation program outlined above for the freshman and sophomore years. They lead to a B.A. degree in physics and a professional degree (M.S. or M.E.) in one of the departments of engineering. Suggested curricula for each of the engineering options appears below. Note that the load each semester could be lightened if some courses were taken during one or more Summer School sessions.

Chemical Engineering Option

Junior Year			Ch.E. 476			3
	F	S	Ch.E. 477, 378			3
Physics 321	4		Ch.E. 474	3		
Math. 434 or 321	3		E.E. 301	2		
Physics 318		3	Chem. 351, 352, 353	3	4	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$	
Relig.		2				
Ch.E. 273, 373	3	2	Graduate Year			
Ch.E. 374, 376	3	3		F	S	
Ch.E. 375, 377	2	1	Ch.E. 478, 464	3	3	
Chem. 461, 462, 464	3	5	Ch.E. 673		3	
E.E. 307		1	Ch.E. 674	3		
Total Hours	18 $\frac{1}{2}$	17 $\frac{1}{2}$	Ch.E. 677	1		
Senior Year			Ch.E. 681		3	
	F	S	Ch.E. 699	4	2	
Physics 551, 552	3	3	Ch.E. 691R	1	1	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Approved elective	3	3	
Electives (biol. sci.)	2	4	Total Hours	15	15	
Relig.		2				

Civil Engineering Option

Junior Year			Electives (biol. sci.)			3
	F	S	E.E. 302	2		
Physics 321, 318	4	3	C.E. 423, 424	3	2	
Math. 434 or 321	3		C.E. 431, 432	3	2	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	C.E. 341, 461	3	3	
C.E. 200, 103	1	3	Relig.		4	
C.E. 211, 212	2	2	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$	
C.E. 303, 305	3	3				
C.E. 332		3	Graduate Year			
C.E. 321		3		F	S	
E.E. 301	2		C.E. 571		3	
Geol. 330	3		Major tech. electives	6	6	
Total Hours	18 $\frac{1}{2}$	17 $\frac{1}{2}$	Major tech. electives	6	3	
Senior Year			C.E. 698 or 699	3	3	
	F	S	C.E. 691A,B	$\frac{1}{2}$	$\frac{1}{2}$	
Physics 551, 552	3	3	Total Hours	15 $\frac{1}{2}$	15 $\frac{1}{2}$	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$				

Electrical Engineering Option

Junior Year			Dev. assy. 1 1/2		
	F	S	Relig.	2	1 1/2
Physics 321	4		M.E. 301, 302	3	3
Math. 434 or 321	3		E.E. 431, 411	4	2
Physics 318		3	E.E. 442, 541	4	4
Dev. assy.	1/2	1/2	E.E. 450		2
C.E. 101		2	Elective (biol. sci.)		3
E.E. 221, 460	1	4	E.E. 491, 492	1/2	1/2
E.E. 311, 312*	4	3			
E.E. 341		4	Total Hours	17	18
Elective (biol. sci.)	3				
Relig.		2	Graduate Year		
				F	S
Total Hours	15 1/2	18 1/2	E.E. 513	3	
*Includes 2 hours special problem.			Math.	3	3
			Approved electives	9	12
Senior Year			Total Hours		
	F	S		15	15
Physics 551, 552	3	3			

Mechanical Engineering Option

Junior Year			M.E. 351, 454			3	3
	F	S	E.E. 304, 305				3
Physics 321, 318	4	3	M.E. 412, 510			3	3
Math. 434 or 321	3		M.E. 431			3	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	M.E. 465, 466			1	1
C.E. 102, 303	2	3	Relig.				2
M.E. 151, 201	2	2					
M.E. 321, 322	3	3	Total Hours			17 $\frac{1}{2}$	17 $\frac{1}{2}$
M.E. 363, 364	2	1					
E.E. 301		2					
Relig.	2		Graduate Year				
Stat. 332		3				F	S
Total Hours	18 $\frac{1}{2}$	17 $\frac{1}{2}$	M.E. 534, 540			3	3
			C.E. 571				3
			E.E. 302, 303			3	
			M.E. 571, 698			2	3
			Approved electives			7	6
			Total Hours			15	15
Senior Year							
	F	S					
Physics 551, 552	3	3					
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$					
Electives (biol. sci.)	4	2					

Courses

- 100. Essentials of Physics.** (3:3:0) F.S.Su. Home Study also. (G-PS m) Ballif, Miller
Principles of classical and modern physics as they relate to current concepts of our physical environment.
- 101. Current Topics in Physics.** (3:3:0) S. (G-PS m) Prerequisite: Physics 100.
Follow-up course to Physics 100. Topics will be selected from fields of current interest such as radio astronomy, quasars, age of the earth, lasers, elementary particles, etc.
- 105. Introductory Physics.** (3:3:0) F.S. (G-PS, ML m) Prerequisite: completion of or concurrent registration in Math. 111 or 121. Recommended: concurrent registration in Physics 107.
An applied physics course not requiring calculus. Topics include mechanics, heat, wave motion, sound.

- 106. Introductory Physics.** (3:3:0) F.S. (G-PS, ML m) Prerequisite: Math. 111 or 121. Recommended: concurrent registration in Physics 108.
An applied physics course with laboratory. Topics include electricity and magnetism, introduction to atomic and solid state physics, optics.
- 107. Introductory Physics Laboratory.** (1:0:3) F.S. (G-PS, ML m) Prerequisite: completion of or concurrent registration in Physics 105.
A course of laboratory experiments which will parallel topics presented in Physics 105.
- 108. Introductory Physics Laboratory.** (1:0:3) F.S. (G-PS, ML m) Prerequisite: completion of or concurrent registration in Physics 106.
A course of laboratory experiments which will parallel topics presented in Physics 106.
- 109. Introductory Physics Laboratory.** (1:0:3) F.S. (G-PS m) Prerequisites: completion of or concurrent registration in Physics 106; concurrent registration in Physics 108.
Topics include structural systems, acoustics, physical and psychophysical aspects of color, photometry.
- 110. The Development of Scientific Thought.** (3:3:0) (G-PS, ML m) F.S.
A nonmathematical course showing the historical development of some of the important ideas of physics; emphasizing the inductive method of arriving at scientific concepts and showing the relationship of those concepts to other areas of thought.
- 121, 122. Principles of Physics.** (3:3:0 ea.) F.S. (G-PS m) Prerequisite: completion of or concurrent registration in Math. 141 or 112.
Mechanics, elasticity, fluid mechanics, heat, thermodynamics, kinetic theory, oscillation and wave motion, electricity, and magnetism.
- 127. Descriptive Astronomy.** (3:3:0) F.S. Home Study also. (G-PS m)
A nonmathematical presentation of our knowledge of the content and history of the cosmos. Frequent use is made of the observatory and planetarium. Students taking this course may not receive credit for Physics 129, 130.
- 128. Elementary Astronomy Laboratory.** (1:0:2) F.S. (G-PS m) Prerequisite: Physics 127 (may be taken concurrently).
A laboratory course in elementary observational astronomy designed to give the student first-hand experience in observing and analyzing basic astronomical phenomena.
- 129, 130. Introduction to Astronomy.** (2:2:0 ea.) F.S. (G-PS m) Prerequisite: High school algebra and trigonometry.
A survey of the whole field of astronomy for students primarily interested in the sciences. Students taking this course may not receive credit for Physics 127.
- 137. Weather and Climate.** (3:3:0) F.S.Su. Home Study also. (G-PS m)
A study of the earth's atmosphere and the physical processes responsible for weather phenomena and climate.
- 167. Descriptive Acoustics of Music and Speech.** (3:3:0) S. (G-PS m) Strong
An introductory acoustics course, with emphasis on the physical principles underlying the production and perception of music and speech.
- 177. Physics of Light and Photography.** (3:2:3) F.S. Home Study also. (G-PS m)
An introductory course, with emphasis on those aspects of light related to photography.
- 201, 202. General Physics.** (5:5:3 ea.) F.S. (G-PS, ML m) Prerequisite: Math. 109 or equivalent. Jensen, Miller
A general course with laboratory for students in premedical, pre dental, and biological science programs. Topics include mechanics, heat, sound, light, electricity and magnetism, atomic and nuclear physics.

- 211, 213. Principles of Physics: Classical.** (5:5:0, 4:4:0) F.S.Su. (G-PS m)
Prerequisites: Math. 112; completion of or concurrent registration in Math.
113. Students in Physics 213 should register for Physics 214 concurrently.
Mechanics, heat, sound, light, electricity, and magnetism for physical science and engineering majors. Physics 213 (or Physics 221) is a prerequisite for all specialized courses in physics.
- 214. Principles of Physics Laboratory.** (1:0:3) F.S.Su. (G-PS m) Prerequisite: completion of or concurrent registration in Physics 221.
Experimental work to parallel Physics 221.
- 221, 222. Principles of Physics.** (3:3:0 ea.) F.S. (G-PS m) Prerequisite: Physics 122.
The electromagnetic field, electromagnetic waves, optics, quantum radiation, spectra, atomic and nuclear structure, radioactivity, nuclear energy, fundamental particles. Students should register concurrently for Physics 214 and 316 respectively.
- 300. Philosophical Foundations of Modern Physics.** (3:3:0) F.S. (G-PS m) Prerequisite: college-level course in chemistry or physics; or consent of instructor. Nielsen
Selected topics in modern physics (e.g., relativity and quantum mechanics) will be briefly developed and examined for their philosophical implications. Some current challenging problems will be explored.
- 316. Atomic and Nuclear Physics Laboratory.** (1:0:3) F.S.Su. (m) Prerequisite: completion of or concurrent registration in Physics 222.
Required of all physics majors. Experimental work in particle and radiation physics.
- 317, 318. Elementary Methods in Theoretical Physics.** (3:3:0 ea.) F.S.
Development of formal procedures in theoretical physics, including the application of linear algebra, vector analysis, complex analysis, and the techniques of Fourier, et al., to the classical equations of physics.
- 321, 322. Mechanics.** (4:4:0 ea.) F.S. (m) Prerequisite: Physics 317.
Methods of classical mechanics applied to equilibrium, particle motion, central forces, small oscillations, conservation principles, and rigid body dynamics, with an introduction to Lagrange's equations.
- 341, 342. Electricity and Magnetism.** (3:3:0 ea.) F.S. (m) Prerequisite: Physics 317.
Classical theory of electricity and magnetism developed from its experimental foundations. Electrostatics, magnetostatics, currents and their associated fields, circuit theory, and Maxwell's equations.
- 386. Advanced Experimental Techniques.** (1:1:2) F.S. Eastmond
Basic techniques in electrical, optical, thermal, electronics, etc., measurements and instrumentation for contemporary experimental physics.
- 387. Advanced Physics Laboratory.** (2:1:3) F.S. Eastmond
Application of contemporary methods and instruments to the experimental observation and measurement of classical and modern physical phenomena.
- 391, 392. Seminar in Current Physics.** (1:1:0 ea.) F.S. Prerequisite: consent of instructor.
For junior physics majors enrolled in the Honors Program.
- 431. Thermal Physics.** (3:3:0) S. (m) Larson
Fundamental principles of thermodynamics, with introduction to the concepts of kinetic theory and statistical mechanics for physicists, chemists, and engineers.
- 441. Electronics for Physicists.** (5:3:6) S. Prerequisite: Physics 342. Jones
Fundamental concepts of electronics and basic circuitry, with emphasis on the tools needed for specialized research in a variety of fields of physics.

- 471. Optics and Electromagnetic Theory.** (3:3:0) F. (m) Eastmond
Intermediate treatment of the propagation, reflection, refraction, interference, and diffraction of electromagnetic waves, with introduction to the use of Maxwell's equations and quantum optical phenomena.
- 497A,B,C. Introduction to Research.** (1-3:0:2-6 ea.) (m)
- 511. Introduction to Theoretical Physics.** (3:3:0) Su. Prerequisites: Math. 434 or equivalent.
Introduction to basic principles of physics, with emphasis on their mathematical formulation. Topics treated vary from year to year.
- 513A,B,C,D. Special Topics in Contemporary Physics.** (1-3:1-3:0 ea.) Prerequisite: consent of instructor.
Course content varies from year to year. Subject matter will generally be related to recent developments in physics.
- 517, 518. Mathematical Physics.** (3:3:0 ea.) Prerequisites: Physics 318 or equivalent.
Topics in modern theoretical physics, including applications of matrix and tensor analysis and linear differential and integral operators.
- 521, 522. Celestial Mechanics.** (3:3:0 ea.) F.S. Prerequisite: consent of instructor. Hansen
Fundamental principles of celestial mechanics and orbital computations.
- 527, 528. Introduction to Astrophysics.** (3:3:0 ea.) F.S. Prerequisite: consent of instructor. McNamara
Fundamental principles and observational techniques of astrophysics.
- 536, 537. Space and Planetary Physics.** (3:3:0 ea.) F.S. (Offered 1970-71 and alternate years) Prerequisite: consent of instructor. Ballif, Jones
Topics will include solar physics, interplanetary fields, atmospheres of earth and planets.
- 551. Elements of Quantum Theory.** (3:3:0) F. Prerequisites: Physics 221; Math. 434; or equivalents.
Basic course in modern theory of radiation and particle physics for physicists, chemists, and engineers. Topics include elementary treatments of relativity theory, quantum mechanics with spectroscopic applications, quantum statistics, solids.
- 552. The Atomic Nucleus.** (3:3:0) S. Prerequisites: Physics 221; Math. 434; or equivalents.
Basic course in nuclear physics for physicists, chemists, and engineers. Topics include description of nuclear properties, scattering theory, nuclear reactions, elementary theory of the nucleus.
- 555. Nuclear Reactor Physics.** (3:3:0) F. Prerequisite: Ch.E. 582 or consent of instructor.
Introduction to neutron physics in multiplying and nonmultiplying media; diffusion and slowing down of neutrons; multigroup reactor theory.
- 557. Nuclear Reactor Physics Laboratory.** (1:1:2) S. Prerequisite: Physics 555.
Laboratory experiments in neutron and nuclear reactor physics; reactor flux and importance, cross-section, neutron age, and diffusion parameter measurements.
- 561. Fundamentals of Acoustics.** (4:4:0) F. Strong
General consideration of the generation, transmission, and reception of sound. Discussion of vibrating systems, properties of elastic media, mechanical and electrical energy, and radiation.
- 562. Acoustical Measurements.** (2:0:4) F. Prerequisite: completion of or concurrent registration in Physics 561.
Selected experiments in acoustics.

- 565. Characteristics of Speech.** (3:3:0) S. (Offered 1971 and alternate years)
Prerequisites: Physics 561 or consent of instructor. Strong
Acoustical theory of speech production. Auditory capabilities of man and speech perception. Techniques for analysis and synthesis of speech. Synthesis-by-rule and machine recognition.
- 566. Musical Acoustics.** (3:3:0) S. (Offered 1970 and alternate years) Prerequisite: Physics 561 or consent of instructor. Strong
Technical study of acoustical behavior and timbre of musical instruments. Ensemble and choral effects. Mathematical models of instruments. Analysis and synthesis of instrumental tones. Electronic musical instruments.
- 581. Introduction to X-Ray Diffraction Analysis.** (3:2:3) F. (Offered on sufficient demand) Prerequisite: consent of instructor. Barnett
Introduction to the theory and experimental techniques of x-ray diffraction, including an introduction to crystal geometry.
- 582. X-Ray Crystallography.** (3:2:3) S. (Offered on sufficient demand) Prerequisite: Physics 581 or equivalent. Barnett
Introduction to x-ray crystallography, with emphasis on the space groups and structure-dominated crystal physics.
- 611, 612. Astrophysics.** (3:3:0 ea.) F.S. (Offered 1970-71 and alternate years) Prerequisite: consent of instructor. McNamara
The theory of stellar atmospheres and interstellar matter.
- 617, 618. Advanced Topics in Theoretical Physics.** (3:3:0 ea.) F.S.
Current developments in the formal theoretical basis of relativity and studies of symmetry principles in quantum mechanics, with applications.
- 621. Dynamics.** (3:3:0) F. Prerequisite: Physics 322.
Advanced treatment of classical mechanics, including Lagrange's and Hamilton's equations, rigid body motion, and canonical transformations.
- 623. Dynamics of Continuous Media.** (3:3:0) S. (Offered 1970-71 and alternate years) Prerequisite: Physics 621.
The mechanics of systems with an infinite number of degrees of freedom. Topics include elasticity and hydrodynamics.
- 625. Theory of Relativity.** (3:3:0) S. (Offered 1971-72 and alternate years) Prerequisite: Physics 621. Harrison
Fundamentals of special relativity, applications to dynamics and electromagnetism, and introduction to general relativity.
- 627, 628. Advanced Topics in Astrophysics.** (3:3:0 ea.) F.S. (Offered 1971-72 and alternate years) Prerequisite: consent of instructor. McNamara
Internal structure of stars; galactic structure.
- 631, 632. Statistical Mechanics.** (3:3:0 ea.) F.S. Larson
Advanced thermodynamics; classical statistical mechanics, quantum statistics, transport theory.
- 641, 642. Mathematical Theory of Electricity and Magnetism.** (3:3:0 ea.) F.S. Prerequisite: Physics 342. Vanfleet
Advanced electrostatics and magnetostatics; Maxwell's equations and electromagnetic waves; relativistic electrodynamics, radiation theory, interaction of matter with electromagnetic fields.
- 645, 646. Plasma Physics.** (3:3:0 ea.) F.S. (Offered on sufficient demand) Prerequisites: Physics 431, 621, 642. A. Gardner
A study of the plasma state of matter, including a description both in terms of individual particles and in terms of a fluid, with applications.
- 651, 652. Quantum Mechanics.** (3:3:0 ea.) F.S. Prerequisites: Physics 518, 551, 621. J. Gardner, Nelson
Nonrelativistic quantum mechanics logically developed with applications.

- 655, 656. Nuclear Physics.** (3:3:0 ea.) (Offered on sufficient demand) Prerequisite: Physics 552. Dixon, Jensen
Fundamental properties of nuclei, nuclear forces, nuclear models, electromagnetic properties of nuclei, particle radioactivity, nuclear reactions, and interaction of radiation with matter.
- 671. Atomic and Molecular Spectroscopy.** (3:3:0) F. Prerequisite: consent of instructor.
Series and multiplet atomic spectra and rotational, vibrational, and electronic band spectra; determination of atomic and molecular structure.
- 672. Observation and Analysis of Spectra.** (3:1:4) S. Prerequisite: Physics 671 or consent of instructor.
Analysis of optical spectra, with instrumentation and experimentation including stellar spectroscopic techniques.
- 681, 682. Modern Theory of Solid State.** (3:3:0 ea.) F.S. Prerequisites: Physics 431, 551. Decker, Vanfleet
An introductory course for students in physics, chemistry and engineering. Physical properties of atomic and molecular systems which are arranged in a regular periodic structure.
- 691, 692. Seminar.** (1:1:0 ea.) F.S.
- 697. Research.** (Arr.)
- 699. Research and Thesis for Master's Degree.** (6-9:Arr.:Arr.)
- 711A,B,C. Advanced Topics in Physics.** (1-3:1-3:0 ea.) F.S. Prerequisite: consent of instructor.
Course content varies from year to year. Special topics in theoretical and experimental physics are treated.
- 751, 752. Advanced Quantum Theory.** (3:3:0 ea.) F.S. (Offered 1970-71 and alternate years) Prerequisite: Physics 652 or consent of instructor.
Topics in relativistic quantum mechanics including quantum field theory.
- 791, 792. Seminar.** (1:1:0 ea.) F.S.
- 797. Research.** (Arr.)
- 799. Research and Dissertation for Ph.D. Degree.** (Arr.)

Political Science



Professors: Grow, Hickman, Hillam (chairman, 270 M), Mabey, Melville, Midgley, Reeder.

Associate Professors: Farnsworth, Harlow, Morrell, Slover, Taylor.

Assistant Professors: Buckwalter, Snow, Tullis, Williams, Wright.

Political science is concerned with the interplay of power and interests in local, national, and international communities and the resulting formulation and execution of public policy. On the basis of empirical theory and political philosophy, political science analyzes, in particular, governments, parties and pressure groups, law, and public administration. It investigates foreign political systems and international relations in addition to emphasizing the American political systems at all levels. The faculty members of the department have had varied and excellent academic training as well as broad practical experience both in this country and overseas.

Students completing the Bachelor of Arts degree in political science are currently entering high school and seminary teaching (with secondary certification), career business positions, and government employment including the foreign service and military officer corps. The majority, however, are going on immediately for graduate study of law, political science for junior college and university teaching and research, public administration, and business administration.

Requirements for an Undergraduate Major

Bachelor-degree candidates majoring in political science are required to complete satisfactorily a minimum of thirty credit hours of courses as indicated below. No "D" credit may be counted toward this total.

Required Introductory Courses (to be taken prior to upper-division courses)

- 110. American Political System
- 150. Introduction to Comparative Political Systems
- 170. Introduction to International Politics

Required Upper-Division Courses

- 300. Political Inquiry (normally to be taken before other upper-division courses)
- 402. Introduction to Political Philosophy (Students planning on graduate study in political science should take either 501 or 502 in lieu of 402. Students emphasizing political philosophy in undergraduate study should take both 501 and 502 in lieu of 402.)

Elective Upper-Division Courses

The remainder of courses may be chosen from the following fields, to include a minimum of two 500-level courses (in which less requirements are imposed on undergraduate than on graduate students). These electives should be selected in consultation with an adviser, according to career needs.

Political Theory and Philosophy: Pol. Sci. 501, 502, 503, 506, 564.

American Political System: Pol. Sci. 310, 311, 330, 360, 361, 423, 510, 514, 520, 523, 525, 563, 568; Hist. 385.

Comparative Political Systems: Pol. Sci. 350, 355, 359, 380, 457, 549, 551, 552, 553, 556, 557, 558.

International Politics: Pol. Sci. 370, 371, 375, 380, 570, 572, 573, 575, 576, 578, 580; Hist. 384.

Recommended Courses

Undergraduate **majors planning on graduate study in political science** should take the following courses in preparation for the Graduate Records Examination, in addition to the basic 30 credit hours:

508. Empirical Political Theory (to be taken semester prior to Graduate Record Examination)

499. Senior Seminar (to be taken last or next-to-last semester)

Related Study for Political Science Majors

No minor is required for students majoring in political science (except in connection with secondary teaching certification). Instead, majors should study in breadth within the social sciences.

(1) In satisfying the **American history and government** requirement, majors are encouraged to take both Hist. 120 and 121 rather than 170.

(2) Study is also encouraged in each of the social sciences: economics, sociology and anthropology (especially Sociol. 350, 501), geography (especially 441), psychology (especially 350, 430), and other history offerings.

Another means of achieving this breadth is by taking a concurrent major or a minor in one of the following interdisciplinary programs: Asian Studies, European Studies, International Relations, or Latin-American Studies.

Majors also should prepare themselves in two areas of necessary skills:

(3) For those who may plan graduate study in political science, as well as those emphasizing either foreign or international affairs, **foreign language training** is highly recommended. Such training should extend to at least the intermediate level. Because the University has a language requirement or an alternative, any other majors ought to consider which would be more beneficial for them.

(4) A behavioral research composite of courses emphasizing **quantitative analysis** is also advisable, including Sociol-Psych. 350, 6 credits in statistics, 3 credits in computer science, Math. 385, plus Phil. 101, as well as relevant social science courses in (2) above.

Requirements for a Minor in Political Science

Bachelor-degree candidates taking a minor in political science are required to complete satisfactorily a minimum of fifteen credit hours of courses offered by the department. The minor should emphasize breadth—all three introductory courses, 110, 150 and 170, plus two upper-division courses; or depth—any one of the introductory courses plus four related upper-division courses, including one 500-level course. (If the latter option does not include 110, this American course should be taken as a part of the American history and government requirement, rather than taking Hist. 170.)

Secondary Teaching

See Education section for details on the **secondary teaching certification** of a political science major or minor.

M.A. Degree

The department also offers programs leading to the Master of Arts degree in political science, consisting of study in 500-level courses and in 600-level seminars. The latter are offered to graduate students only.

See the Graduate School Catalog for details.

Courses

- 105. Current Affairs.** (1:1:0) F.S.Su. (G-SS m)
Survey of current events, with special attention to historical background and present implications in economics, sociology, politics, and international relations.
- 110. American Political System.** (3:3:0) F.S.Su. Home Study also. (G-SS m)
Origin and development of federal Constitution; national, state, and local governments and politics with their environments.
- 150. Introduction to Comparative Political Systems.** (3:3:0) F.S. Home Study also. (G-SS m)
Patterns of European, Asian, Latin-American, and other political systems and politics.
- 170. Introduction to International Politics.** (3:3:0) F.S. Home Study also. (G-SS m)
Survey of basic forces, practices, institutions, and foreign policies of major powers, and problem areas in international politics.
- 300. Political Inquiry.** (3:2:1) F.S. Prerequisites: Pol. Sci. 110, 150; completion of or concurrent registration in Pol. Sci. 170.
Systematic treatment of methodology in political science, including theory and techniques of qualitative and quantitative research designs.
- 310. The United States Political System.** (3:3:0) F.S.Su. (G-SS m) Prerequisite: Pol. Sci. 110. Buckwalter, Grow, Melville
Systematic inquiry into the national government and politics of the U.S. in the context of American society as a whole; emphasizes roles, interest patterns, bases of power and policy formulation, implementation, and appeal.
- 311. State and Local Government and Politics.** (3:3:0) F.S.Su. (G-SS m) Prerequisite: Pol. Sci. 110. Grow, Williams
Relation of state and national governments, forms of state governments and politics; types of municipal governments and their development and operation.
- 330. Introduction to Public Administration.** (3:3:0) F.S.Su. (G-SS m) Grow, Slover, Snow, Williams, Wright
Organization and operation of government. Relationship of administration to other branches of government; types of control over administration; central and local government.
- 350. Political Systems of the USSR and Eastern Europe.** (3:3:0) F.S.Su. (G-SS m) Recommended: Pol. Sci. 150 or Hist. 330 or 331. Mabey, Morrell
The Communist Party and Soviet government; Marxist-Leninist ideology; deciding and implementation of policy; political impact upon society and the economy.
- 355. Political Systems of United Kingdom and Commonwealth.** (3:3:0) F.S. (G-SS m) Recommended: Pol. Sci. 150. Mabey
Development of the British Constitution; examination of growth of cabinet government; the Crown, Parliament, Civil Service; local and governmental administration; English judicial system; the Commonwealth.
- 359. Modernization and Political Change.** (3:3:0) F.S. (G-SS m) Recommended: Pol. Sci. 150. Tullis
Analytical and comparative approach to the nature and causes of political change and stability in Asia, Middle East, Africa, and Latin America.
- 360. Constitutional Law of the U.S. I.** (3:3:0) F.S. (G-SS m) Reeder, Williams
American federal system.

- 361. Constitutional Law of the U.S. II.** (3:3:0) F.S. (G-SS m) Reeder, Williams
Fundamental rights and immunities.
- 370. Theory of International Relations.** (3:3:0) F.S.Su. (G-SS m) Prerequisite:
Pol. Sci. 170. Recommended: Pol. Sci. 300. Hillam
Theoretical approach to the international system and the interactions
between regional and national systems; basic concepts of conflict and
cooperation.
- 371. Contemporary U.S. Foreign Relations.** (3:3:0) F.S. (G-SS m) Recommended:
Pol. Sci. 110. Buckwalter
Emergence of the United States as the world power and its impact upon
the other major powers and representative smaller countries.
- 375. International Organizations.** (3:3:0) F.S. (G-SS m) Prerequisite: Pol. Sci.
170. Recommended: Pol. Sci. 300. Taylor
Survey of process of international organizations in historical and political
perspective.
- 380. World Communism.** (3:3:0) F.S. (G-SS m) Mabey, Morrell, Taylor
Emergence and development of communist politics in relation to Marxist
and Fabian socialism, fascism, anti-colonialism, and Western democracy.
- ☐ **History 384. U.S. Diplomatic History.** (3:3:0) Melville
- ☐ **History 385. American Constitutional History.** (3:3:0) Melville
- 402. Introduction to Political Philosophy.** (3:3:0) F.S.Su. (G-SS m)
Melville, Midgley
General historical introduction to the major expressions of political
philosophy.
- 422. Contemporary Problems.** (2:2:0) F.S.Su. (G-SS m)
Selected topics which involve the formulation of public policy in the
areas of economics, sociology, politics, and international relations.
- 423. Minority Group Politics in America.** (3:3:0) F.S. (G-SS m)
Changing role of minority groups in contemporary American politics.
Sources of political cleavage and patterns of conflict resolution.
- 457. Government and History of Canada.** (3:3:0) S. (G-SS m) Grow
Growth and development of Canada and the operation of her govern-
ment.
- 498R. Directed Readings in Political Science.** (1-2:0:1-2 ea.) F.S.Su. Pre-
requisites: senior status and permission of department chairman and
instructor.
- 499. Senior Seminar.** (3:2:0) F.S. Prerequisite: next-to-last or last undergraduate
semester in major.
Research in field of concentration and writing of an extensive seminar
paper. (For majors who plan on graduate study in political science.)
- 501. Ancient Political Philosophy.** (3:3:0) F. (G-SS m) Midgley
The history of political philosophy, beginning with the pre-Socratics and
ending with Hobbes. (For graduate students and for undergraduates who
are emphasizing the field of political philosophy or are intending to do
graduate study in political science.)
- 502. Modern Political Philosophy.** (3:3:0) S. (G-SS m) Melville, Midgley
The history of political philosophy beginning with Hobbes and ending
with the recent revival of political philosophy. (For graduate students and
for undergraduates as explained under Pol. Sci. 501.)
- 503. Contemporary Political Philosophy.** (3:3:0) (G-SS m) Melville, Midgley
Survey of the attack upon political philosophy by political theorists,
and the various attempts to revive it by philosophers and theologians.

506. **American Political Thought.** (3:3:0) S. (G-SS m) Home Study also.
Melville
American political and legal ideas from the colonial period to the present, with an analysis of their influence upon development of American history and government.
508. **Empirical Political Theory.** (3:3:0) F. Prerequisite: major in political science; to be taken semester prior to Graduate Record Examination.
Buckwalter
Background, development and critique of empirical theories about systems, functionalism, elites, etc., in the political process.
510. **Parties and Pressure Groups in the U.S.** (3:3:0) F.S.Su. (G-SS m) Pre-requisite: Pol. Sci. 110.
Grow
Organization and methods of action of American political parties and pressure groups.
514. **The United States Presidency.** (3:3:0) F.S.Su. (G-SS m) Melville
The American President and Vice-President, White House office, Bureau of the Budget, Cabinet, and National Security Council examined in political as well as governmental aspects.
520. **American Legislative Systems.** (3:3:0) F.S.Su. (G-SS m) Prerequisites: Pol. Sci. 110.
Buckwalter
Structure and organization of Congress and state legislative bodies; nature of business transacted and conflict resolution; influences acting upon such bodies; parliamentary procedures.
523. **Intergovernmental Relations in the United States.** (3:3:0) S. (G-SS m) Prerequisites: Pol. Sci. 310 and 311.
Federal-state-local and interstate relations; adjustment and change in our federal system. A survey of major programs and trends; emphasis on organizational, administrative, and fiscal relationships.
525. **The Military in Government and Politics.** (3:3:0) (G-SS m) Prerequisites: Pol. Sci. 310 and 370.
Slover
Role of defense agencies in government; strategic alternatives for defense which affect politics, economics, and foreign relations; and role of the military in assisting governing of nations abroad.
530. **Quantitative Analysis in Public Administration.** (3:3:0) Recommended: Pol. Sci. 330.
Wright
Research in decision making; design, tools, and techniques for gathering data, and statistical analysis.
531. **Principles of Public Organization and Management.** (3:3:0) S. (m) Pre-requisite: Pol. Sci. 330.
Snow, Wright
Organizational analysis; an examination of classical and contemporary theories and empirical research related to large-scale organizations, and the impact of bureaucracy in modern society.
532. **Public Personnel Administration.** (3:3:0) F. (m) Prerequisite: Pol. Sci. 330.
Grow, Williams
Treatment of processes, procedures, controls and problems of personnel administration in the public service.
533. **Public Finance Administration.** (3:3:0) F. (m) Prerequisite: Pol. Sci. 330.
Harlow, Snow, Wright
Public financial organization, revenue sources and administration, administrative aspects of budgetary planning and control, and intergovernmental financial relationships.
534. **State Government and Administration.** (3:3:0) F. (G-SS m) Prerequisite: Pol. Sci. 330.
Snow, Williams
Problems and issues in state government administration; the changing role of state government; organizational and administrative innovations to meet new and changing demands.

535. **Municipal Government and Administration.** (3:3:0) S. (G-SS m) Recommended: Pol. Sci. 330. Grow, Harlow, Williams
Growth, development, and organization of cities; relationship of cities to other governments; problems and activities of modern cities.
536. **City Planning.** (3:3:0) S. (m) Recommended: Pol. Sci. 330.
Basic problems and techniques involved in city planning.
537. **Program Administration.** (3:3:0) F. (m) Recommended: Pol. Sci. 330.
Government institutions and their programs. Basic factors underlying effective administration in specific functional areas of public administration.
538. **International Project Administration.** (3:3:0) (m) Recommended: Pol. Sci. 359. Slover, Snow
The administration of United States programs abroad. Problems faced, living conditions, techniques of administration, approaches to education, etc.
539. **Comparative Public Administration.** (3:3:0) S. (G-SS m) Recommended: Pol. Sci. 359. Wright
Comparative analysis of various administrative procedures and practices.
540. **Public Management Control Systems.** (3:3:0) F.S. (m) Recommended: Pol. Sci. 330.
Uses of organizational, budgetary, and electronic information systems for public management control and coordination.
549. **Political System of France.** (3:3:0) S. (G-SS m) Recommended: Pol. Sci. 150. Morrell
The political system, including government and parties of the French Fifth Republic; its heritage; comparisons with Switzerland, Benelux, and French Community countries.
551. **Political System of China.** (3:3:0) F.S.Su. (G-SS m) Recommended: Pol. Sci. 150 or Hist. 343 or 344. Farnsworth
Comparative analysis of the Communist Chinese political system within the context of the total social system.
552. **Political System of Japan.** (3:3:0) F.S.Su. (G-SS m) Recommended: Pol. Sci. 150 or Hist. 345 or 346. Farnsworth
Comparative analysis of the Japanese political system within the context of the total social system.
553. **Political Systems of the Middle East.** (3:3:0) F. (G-SS m)
The analysis of governmental institutions of the Middle East, with emphasis on the structure and dynamics of modern Middle Eastern politics.
556. **Modernization and Political Change in South America.** (3:3:0) S. (G-SS m) Recommended: Pol. Sci. 359 or consent of instructor. Tullis
Analytical and comparative approach to the relation of economic development and political change, and the impact of social forces on political order.
557. **Modernization and Political Change in Mexico and the Caribbean.** (3:3:0) S. (G-SS m) Recommended: Pol. Sci. 150, 359, or equivalents. Tullis
Analytical and comparative approach to the relation of economic development and political change, and the impact of social forces on political order.
558. **Modernization and Political Change in Asia.** (3:3:0) S. (G-SS m) Recommended: Pol. Sci. 150 and/or 359. Farnsworth, Hillam
Analysis of selected political systems of Asia (excluding China and Japan), utilizing developmental and comparative methodology.
563. **Administrative Law of the U.S.** (3:3:0) F. (G-SS m) Reeder
Legal setting for administrative bodies and judicial control of administrative action. Cases in administrative law read and discussed.

- 564. Jurisprudence.** (3:3:0) F. (G-SS m) Midgley, Reeder
 Problem approach to ancient and modern legal philosophies, with special attention given to the nature of justice and the relations of law to morality.
- 568. Anglo-American Legal Institutions.** (3:3:0) S. (G-SS m) Melville, Reeder
 Origins and development of common law and equity, the writ system, court systems, basic legal terms, and the anatomy of a law suit.
- 570. Formulation of American Foreign Policy.** (3:3:0) F.S. (G-SS m) Hickman
 The structure and function of American national government and politics relating to the formulating of foreign policy.
- 512. USSR Foreign Relations.** (3:3:0) F.S. (G-SS m) Recommended: Pol. Sci. 170, 350, 370, or Hist. 330 or 331. Morrell
 Development of Soviet Russia's foreign relations under the Bolsheviks, Comintern, etc., but especially its relations since 1945 with major areas of the world; the policies, their formulation and implementation.
- 573. International Relations of Western Europe.** (3:3:0) F.S. (G-SS m) Hickman, Morrell
 Study of the transitional role of Western Europe in world politics, with emphasis upon integration and defense.
- 575. International Law.** (5:5:0) S. (G-SS m) Reeder
 Nature and function of international law; recognition, succession, jurisdiction rights, and immunities of states; nationality and jurisdiction over nations.
- 576. Regional International Systems.** (3:3:0) F.S. (G-SS m) Hickman, Hillam, Taylor
 Analysis and comparison of selected regional international systems; regional defense, social and economic cooperation; relationship between regional and world systems; economic and political integration.
- 578. International Relations of Latin America.** (3:3:0) S. (G-SS m) Recommended: Pol. Sci. 170, 359. Tullis
 Political, economic, and cultural problems that arise from the relationships between the nations of Latin America and the United States.
- 580. International Relations of Asia.** (3:3:0) F.S. (G-SS m) Recommended: Pol. Sci. 170 and/or 370 or Hist. 341. Farnsworth, Hillam
 Analysis of the forces and issues which influence the international system of Asia.
- 630. Administrative Analysis.** (3:3:0) F.S. Grow, Harlow, Williams
 The practical application of research tools and techniques to administrative and community (public) problems; field experience is emphasized; report writing.
- 631. Administrative Behavior.** (3:3:0) F.S. Wright
 An examination of theories and research related to human behavior in the organizational setting.
- 632. Public Policy Development and Program Planning.** (3:3:0) F.S. Grow, Snow, Williams, Wright.
 An examination of the formation of public policy; the role of the public administrator in the development of public policy; program planning, and implementation.
- 633. Contemporary Issues and Public Administration.** (3:3:0) F.S. Buckwalter, Grow, Snow, Williams, Wright
 An examination of contemporary and critical community issues and their impact upon the administration of American public bureaucracy.

645R. Graduate Colloquium. ($\frac{1}{2}$:1:0 ea.) F.S.

Required of all graduate students each semester in residence.

690R. Seminar in Political Theory. (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s).
Melville, Midgley**691R. Seminar in Politics.** (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s).
Buckwalter, Grow, Melville, Slover**694. Project in Public Administration.** (3:0:Arr.)**695R. Seminar in Foreign Governments and Comparative Politics.** (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s).
Farnsworth, Hillam, Mabey, Morrell, Tullis**696R. Seminar in Public Law.** (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s).
Melville, Reeder, Williams**697R. Seminar in International Relations.** (1-3:1-3:0 ea.) (m) Prerequisite: related advanced course(s).
Buckwalter, Farnsworth, Hickman, Hillam, Morrell, Reeder, Taylor**698R. Directed Readings in Political Science.** (1-2:1-2:0 ea.) F.S.Su. Prerequisite: permission of graduate committee and instructor.**699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.

Karl G. Maeser Memorial Building

Provisional Registration

(Undetermined Major)



Assistant Professor: Goodson (chairman, A-203 JKB).

Instructor: Jensen.

A major purpose of the Provisional Registration Department in General College is to provide a place for those students who come to BYU and who are undecided as to their major.

These students are assigned to a faculty adviser to help them with their college adjustment, choosing their major, and planning their course programs.

An additional help to students in their efforts to choose a major is a college orientation class, identified below, which acquaints students with all of the major and minor offerings of the various colleges at BYU and the world of occupational opportunities. Students are also made aware of and encouraged to use the various resources on campus to gain the additional help and information they need in choosing their college major.

Courses

96. College Orientation. (0:1:0) F.S.

Goodson

Offered on the block plan each block. This class is designed to help students choose their college major. In eight class sessions all of the offerings of the various BYU colleges and their related occupational opportunities are systematically considered.

Suggested Course Programs for Provisional Registration Students

The following programs suggested by the various colleges may serve as a guide in registration for those students who choose to be in General College until they decide upon their major. If a student follows the suggested program until the time he declares his major he will usually have the background courses necessary for the major he chooses within that college. A student does not need to complete the suggested program before transferring to his new college, but should transfer as soon as possible in his college career.

Biological Science, Premedical, Predental, and Preforestry

A student interested in botany, microbiology, or zoology, or planning to apply to schools of medicine, dentistry, or forestry should register for the following courses. This will enable him to transfer from General College to a major department at any time during his freshman or sophomore year and continue work toward a baccalaureate or other professional degree.

To ensure completion of all requirements for the school of his choice, the preprofessional student should contact the chairman of the premedical-dental committee by the end of the freshman year. A student desiring to major in botany, microbiology, or zoology should likewise contact the chairman of the department of his choice.

Freshman Year			Sophomore Year		
	F	S		F	S
Relig. 121, 122	2	2	Relig.	2	2
Engl. 111, 112	3	3	P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Math. 105, 106	3	3	Forum and dev. assy. ..	1	1
Bot. 101, or Micro. 121, or Zool. 105		3	Math. 109	4	
Chem. 105, 106	4	4	Physics 201		5
Soc. sci. and hum.	2		Zool. 202 or 203	4	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Bot. 105	3	
Forum and dev. assy.	1	1	Hist. 170		3
Health 130	2		Chem. 351		3
			Electives	2-3	2-3
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	16 $\frac{1}{2}$ -17 $\frac{1}{2}$	16 $\frac{1}{2}$ -17 $\frac{1}{2}$

Business

All students who have definitely decided on a career in business should transfer to the Business Fundamentals Division of the College of Business. Please see Page 74 of this catalog.

Students who register initially as freshmen in the College of Business should complete Business Fundamentals Division requirements within a two-year period. During this period, students will have an opportunity to make final determination of their academic major. The following is a suggested two-year program for students in the General College who have some interest in the College of Business as a prospective major. This is the same program a student in the Business Fundamentals Division would follow.

Before a student can transfer to an academic major in the College of Business (accounting, business education, business management, economics, or statistics), the student must meet these requirements: (1) completion of Acctg. 201, 202; Econ. 111, 112; Math. 108; and Stat. 221 with a 2.25 (high "C" grade-point average, and (2) completion of 62 semester hours of University credit.

Freshman Year			Sophomore Year		
	F	S		F	S
Engl. 111, 112	3	3	Relig.	2	2
Relig. 121, 122	2	2	P.E.	$\frac{1}{2}$	$\frac{1}{2}$
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Acctg. 201, 202	3	3
Health 130	2		Acctg. 232	3	
Hist. 170		3	Stat. 221		3
Econ. 111, 112	3	3	Gen. ed. requirements ..	8	8
Math. 108	4				
Gen. ed. requirements ..	3	5	Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$			

Note: This is a general suggested program only. Students going into particular majors and specialties can receive advice from the Business Fundamentals Division.

Education

A student having an interest in elementary education should register for the following courses. At the end of his freshman or sophomore year he may transfer to the College of Education without loss of credit and continue his studies toward a Bachelor of Science or Arts degree.

Freshman Year			Sophomore Year		
	F	S		F	S
Relig. 121, 122	2	2	Soc. sci. elective	3	3
Engl. 111, 112	3	3	Dev. assy.	$\frac{1}{2}$	
P.E.*	$\frac{1}{2}$	$\frac{1}{2}$	Bot. 105 or 101		3
Geol. 101, 102	3		Health 130		2
Hist. 170	3		Physics 100		3
			Total Hours	15	16 $\frac{1}{2}$

PROVISIONAL REGISTRATION

Sophomore Year			Micro. 121 or 321; or	
	F	S	Math. 306	3
Relig.	2	2	Music 337	2
Speech and Dram.			CDFR 210	3
Arts 121	3		Art 326	5
Geog. 120	3		Dev. assy.	$\frac{1}{2}$
Minor	2	2	Bio. Agr. Ed. 351	3
Music 226	2			
P.E.*	$\frac{1}{2}$	$\frac{1}{2}$	Total Hours	16
				18

*During their freshman and sophomore years, students should choose physical education classes from each of the following areas: P.E. 184; P.E. 103; group games, $\frac{1}{2}$ unit; physical fitness, $\frac{1}{2}$ unit.

See the Education section of this catalog for additional information.

Students having an interest in secondary education should register for the appropriate courses in other areas of Provisional Registration than the College of Education. For example, a person wishing to teach biological science in the secondary schools should register in courses under biological science, premedicine, predentistry, and preforestry. Or, if a person wishes to teach industrial arts, he should register in the Department of Industrial Education. As soon as a student has chosen his teaching major, he should transfer to the appropriate college to receive advisement and continue his studies toward a Bachelor of Science or Arts degree and teacher certification.

Family Living

The two-year program in family living is designed for students who are undecided about a major and who wish to explore possibilities in the College of Family Living. Courses listed below in clothing and textiles, food science and nutrition, family economics and home management, environmental design, and child development and family relationships will provide a foundation in any one of these fields for the bachelor's degree. Other courses listed below will contribute substantially toward filling general education requirements.

Freshman Year			Sophomore Year		
	F	S		F	S
Relig. 121, 122	2	2	Relig.	2	2
Engl. 111, 112	3	3	Chem. 101, 151	4	5
FEHM 170	2		FSN 115	2	
Psych. 111	3		Econ. 101		3
Clo. and Text. 110		2	Environ. Des. 201	3	
Zool. 105	3		Clo. and Text. 165, 260	4	3
Physics 100	3		Art 101		2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Engl. lit.	2	
Health 130		2	P.E.	$\frac{1}{2}$	$\frac{1}{2}$
FSN 110		2			
CDFR 210		3	Total Hours	17 $\frac{1}{2}$	15 $\frac{1}{2}$
Elective		2			
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$			

Fine Arts and Communications

Following is a suggested sequence of courses for students interested in art, music, dramatic arts, speech, journalism, broadcasting, advertising, and public relations. It is recommended that a student transfer to the College of Fine Arts and Communications as soon as he has determined his major.

Freshman Year				Health		2	
	F	S		Phys. or biol. sci.*		3	3
Relig. 121, 122	2	2		Fine arts electives**	7		8
Engl. 111, 112	3	3					
P.E.	$\frac{1}{2}$	$\frac{1}{2}$		Total Hours	17 $\frac{1}{2}$		16 $\frac{1}{2}$

*Any of the courses listed under physical science in the general education requirements will be accepted. Majors in communications should take Physics 177.

**Art 120, 121, 122, and electives from 227, 233, 239, 250, 256, 259, 263; Commun. 101, 211, 230, 255; Mus. 101, 105, 226 (or private lessons), 170 (or private lesson or other choral group); Speech and Dram. Arts 101, 121, 123.

Humanities

It is anticipated that the student who selects the program suggested below will have a general interest in the field of humanities, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements, will provide training in a foreign language in anticipation of the B.A. degree, and will offer a generous sampling of humanities courses to assist the student in selecting a major. See the Humanities section of this catalog for the humanities major program.

Freshman Year				Sophomore Year			
	F	S			F	S	
Relig. 121, 122	2	2		Relig.	2	2	
Engl. 111, 112	3	3		P.E.	$\frac{1}{2}$	$\frac{1}{2}$	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$		Foreign lang.	4	4	
Hum. 101 or 201	3			Biol. sci. electives**	3	3	
Foreign lang.	4	4		Engl. 250 or 251	3		
Hist. 170*		3		Soc. sci. electives**	2-3	3	
Health 130		2		Hum. electives**	2-3	5	
Phys. sci. electives**	3	3					
Total Hours	15 $\frac{1}{2}$	17 $\frac{1}{2}$		Total Hours	16 $\frac{1}{2}$ -18 $\frac{1}{2}$	17 $\frac{1}{2}$	

*Students who anticipate majoring in history, journalism, or political science should take Hist. 120 or Pol. Sci. 110 and Hist. 121 instead of Hist. 170.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill general education credit in these areas.

Industrial Education and Industrial Technology

A student interested in industrial education or industrial technology should contact their department chairman for assistance with his proposed program of studies. Failure to work with the department may result in delayed graduation due to the sequence of courses that must be maintained.

Freshman Year				Sophomore Year			
	F	S			F	S	
Relig. 121, 122	2	2		Relig.	2	2	
Engr. Tech. 100	1			P.E.	$\frac{1}{2}$	$\frac{1}{2}$	
Health 130; Hist. 170	2	3		Forum and dev. assy. ..	1	1	
Engl. 111, 112	3	3		Biol. sci.**; hum.**	3	3	
Forum and dev. assy.	1	1		Soc. sci.**	3		
P.E.	$\frac{1}{2}$	$\frac{1}{2}$		Engr. Tech. 102	5		
Math. 121; Physics 105 ..	3	4		Indus. tech. or ed.*	4	10	
Drafting 111	3						
Indus. tech. or ed.*	2	2		Total Hours	18 $\frac{1}{2}$	16 $\frac{1}{2}$	
Indus. tech. or ed.* 131 ..		3					
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$					

*Check with major department regarding recommended elective courses for specific programs.

**Any general education course to fill groups.

Nursing

Prospective students who plan to enter the College of Nursing should direct all their communications to the dean of the College of Nursing.

Following is a sequence of courses for the first semester for students interested in the baccalaureate program in nursing:

Freshman Year				
	F			
Relig. 121	2	Chem. 101	4	
P.E.	$\frac{1}{2}$	Psych. 111	3	
Engl. 111	3	Micro. 121	3	
		Total Hours	15 $\frac{1}{2}$	

Students interested in the associate-degree program in nursing contact the dean of the College of Industrial and Technical Education on the Provo campus or the director of the associate-degree program in nursing at the Salt Lake campus.

Physical Education

Following is a suggested sequence of courses for students interested in recreation, physical and health education, athletics, and youth leadership. When a decision is reached to major in one of these areas, the student should transfer immediately to the College of Physical Education and continue his work toward a baccalaureate degree. For detailed information about majoring in health, physical education, recreation, and youth leadership, the student should consult the sections of the catalog dealing with those departments.

Men

Freshman Year		Sophomore Year	
	F S		F S
P.E. 180, 181 or 182	$\frac{1}{2}$	P.E. 280, 235	1 1
P.E. 201, 232	2 1	P.E. 234, 237	1 1
P.E. 231, 233	1 1	P.E. 236; Physics 100 ..	1 3
Health 130; Math. 105 ..	2 3	Zool. 261 and 262;	
Engl. 111, 112	3 3	Speech and Dram.	
Hist. 170; Zool. 105	3 3	Arts 102	6 2
Relig. 121, 122	2 2	Relig.	2 2
Psych. 111; Sociol.		Chem. 100; P.E. 370, 371,	
111 or 112	3 3	373, or 374 (select 2)	3 4
		Hum. minor	
Total Hours	16 $\frac{1}{2}$ 16 $\frac{1}{2}$	subject area	4 4
		Total Hours	18 17

Women

Freshman Year		Sophomore Year	
	F S		F S
Relig. 121, 122	2 2	Relig.	2 2
Engl. 111, 112	3 3	P.E. 244, 245, 207	4 2
P.E. 187, 188, 160	1 $\frac{1}{2}$	P.E. 181, 182	$\frac{1}{2}$ $\frac{1}{2}$
P.E. 241, 242	2 2	P.E. 180, 161	$\frac{1}{2}$ $\frac{1}{2}$
Phys. sci.*	3 3	Zool. 105, 261, 262	3 6
Soc. sci.	3 3	Hist. 170	3
Health 130	2	Health 121	2
Hum.	3	P.E. 375	2
Youth Ldrship. 378	2	Ed. 301	2
		P.E. 330	3
Total Hours	17 17 $\frac{1}{2}$	P.E. 286	1
		Total Hours	17 17

*Any of the courses listed under physical science in the general education requirements will be approved.

Physical and Engineering Sciences

The following course of study is recommended for one or two years. At the end of either, the student may choose a major, transfer into the College of Physical and Engineering Sciences, and pursue his education to the completion of a Bachelor of Science degree in chemistry, geology, mathematics, or physics. To avoid loss of time, this transfer should be made as early as possible. Students who are interested in engineering but who have not chosen a specific field should enroll directly in the preengineering curriculum outlined under the College of Physical and Engineering Sciences. These students should refer to the program of studies of the department in which they have a particular interest.

Freshman Year			Sophomore Year		
	F	S		F	S
Math. 111, 112*	5	4	Math. 113, 214	4	3
Chem. 105, 106**	4	4	Physics 211, 213	5	5
Engl. 111, 112	3	3	Relig.	2	2
Relig. 121, 122	2	2	P.E.	$\frac{1}{2}$	$\frac{1}{2}$
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Hist. 170	3	
Health 130		2	Electives (biol. and/or		
Electives	3	2	hum.)	3	7
Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

*Math. 111 requires a mastery of second-year high school algebra or Math. 101. Students who do not have an adequate background in high school algebra must take Math. 101 before enrolling in either Math. 111 or 105. High school plane geometry is a prerequisite for Math. 111 or 106.

**Chemistry majors should take Chem. 111 or 112.

Social Science

It is anticipated that the student selecting the program suggested below will have a general interest in the social sciences, but will be undecided about a subject in which to major. Completion of this two-year program will fill most of the general education group requirements and should permit a generous enough sampling of social science courses to assist in selecting a major.

Freshman Year			Sophomore Year		
	F	S		F	S
Relig. 121, 122	2	2	Relig.	2	2
Engl. 111, 112	3	3	P.E.	$\frac{1}{2}$	$\frac{1}{2}$
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Econ. 101 or 111	3	
Health 130	2		Pol. sci.	3	
Sociol. 111 or 112	3		Geog. 101 or 120		3
Hist. 170*	3		Anthrop. 101 or 105		3
Psych. 111		3	Engl. lit.	2	2
Electives in phys. sci.**	3	3	Electives in foreign lang.		
Elective in biol. sci.**		2-3	or hum.**	4	4
Elective in hum.**		2-3	Electives in biol. sci.**	3	
Total Hours	16 $\frac{1}{2}$	15 $\frac{1}{2}$ -17 $\frac{1}{2}$	Electives in soc. sci.		3
			Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

*Students who anticipate majoring in economics, history, journalism, or political science should see their department chairman about the Hist. 170 options.

**Students should be sure that the courses selected in physical science, biological science, social science, and humanities fill general education credit in these areas.

Psychology



Professors: Allen, Hardy, Howell, Moffitt, B. Robinson.

Associate Professors: Bennion, Bunker, Cooper, Cundick, Daniels, Jensen, Payne, Pedersen (chairman, 1230 SFLC), K. Smith, Stimpson.

Assistant Professors: Chournos, Higbee, Johnson, Merrill, P. Robinson, Sorenson, Thorne, Weight.

Instructors: Budge, Morrill.

Special Instructors: Fairchild, Kiger, G. Smith, Washburn.

The study of psychology should be of value to the general student in the following ways: (1) provides him with a scientific understanding, for its own sake, of behavior and experience; (2) develops insights into his own behavior and that of others which are useful in meeting everyday problems of life; (3) assists in cultivating more careful habits of thought concerning human behavior; and (4) enhances his appreciation of people.

The field of psychology offers careers in college and high school teaching; various counseling services in elementary and secondary schools; clinical service in clinics, institutions, and private practice; various psychological services in business, industry, and government; research in basic and applied psychology. Most professional fields of psychology require advanced degrees, but there are a limited number of opportunities for those with bachelor's degrees, such as high school teaching, probation and junior-level social work, employment interviewing and testing, and junior-level psychological testing (psychometry).

The study of psychology also has particular value for students preparing for teaching and counseling of any kind—social work, parenthood, law, medicine, various branches of business, and public administration. Psychology may also be of value in any other specialization concerned with man and his works.

In general, undergraduate students may take any psychology course at or below the 500 level during any year providing they have met the course prerequisites. The course number does not indicate the year that the course is normally taken.

Students majoring in psychology must take (a) Psych. 111; (b) Psych. 369, or both Psych. 370 and 374; (c) three of the following four courses: Psych. 360, 365, 450, and 460; (d) Psych. 491R, or Psych. 498; and (e) additional courses to make a total of 30 semester hours.

In general, students anticipating doing graduate study in psychology should take Psych. 370 and 374. In order to be admitted into graduate work in the Psychology Department at Brigham Young University, students will be required to complete Psych. 111, 370, 374, and three of the following four courses: Psych. 360, 365, 450, and 460.

Students who plan to gain employment in social work upon completion of the bachelor's degree or who plan to enter a graduate school of social work may major in psychology and minor in undergraduate social work. It is recommended that these students take the following psychology courses: (a) Psych. 111; (b) Psych. 369 or both Psych. 370 and 374; (c) Psych. 440; (d) Psych. 450; (e) Psych. 350 or 357; and (f) at least one of the following: Psych. 320, 321, 322 or 445. An undergraduate social work minor should include 15 hours from the following courses: Sociol. 111 or 112, 360, 362, 389, 403, 404, and 543.

Note: Students planning to certify as elementary or secondary school teachers should consult the Education section.

Although a minor is not required, students majoring in psychology may select a minor or combination of enrichment courses from a wide range of subjects, depending upon their educational and vocational objectives. They are urged

to consult with their adviser regarding this choice. Students planning to terminate with a bachelor's degree should choose a minor area or a concentration of courses which will broaden their employment opportunities. Suggested areas are secretarial work, various branches of business, recreation, and social work.

To fulfill the additional general education requirements for the baccalaureate degree, the psychology major is encouraged to take as much work in a foreign language (preferably German, French, or Russian) as possible, and to also take courses in the mathematics, logic, science, and statistics area.

For a minor in psychology the following program is recommended: Psych. 111, 369, plus electives from the remaining undergraduate and 500-series courses to make a total of 14 semester hours.

The following graduate programs are offered: a master's degree in general psychology; a master's degree for school psychologists; a master's degree and a Ph.D. in instructional psychology; a Ph.D. in clinical psychology; and a Ph.D. in social psychology. See the Graduate School Catalog for details on these programs.

As part of the training of graduate students, a psychological clinic is maintained by the Psychology Department for the diagnosis and treatment of behavioral and emotional disorders in children and adults. A limited number of selected individuals (other than University students) will be accepted depending on the training needs of the department.

Courses

111. **General Psychology.** (3:3:0) F.S.Su. Home Study also. (G-SS)
Foundation course covering essentials of modern scientific psychology.
Prerequisite for most upper-division psychology classes.
211. **Frontiers of Psychology.** (3:3:0) F.S.Su. (G-SS) Prerequisite: Psych. 111.
Intensive survey of the general field, with special emphasis on topics not covered in detail in Psych. 111.
240. **Personal and Social Adjustment.** (2:2:0) F.S.Su. (G-SS) Home Study also.
Study of the prevention and amelioration of mental and personal difficulties.
320. **Psychology of Childhood.** (3:3:0) F.S.Su. Home Study also. (G-SS) Pre-
requisite: Psych. 111. Budge, Cundick, Jensen
Critical presentation of research on physical, mental, emotional, and
social development of the child and his interests, values, and motivations.
321. **Psychology of Adolescence.** (3:3:0) F.S.Su. Home Study also. (G-SS) Pre-
requisite: Psych. 111. Budge, Cundick, Jensen
Development and maturation during adolescence, with special attention
to research methodology. Programs of sex-social adjustment, independence,
vocational adjustment, and emotional and social maturing in our society.
322. **Psychology of Adult Life.** (2:2:0) S.Su. Home Study also. (G-SS) Prerequi-
site: Psych. 111. Allen, Cundick
Physiological, intellectual, personality, and motivational changes associ-
ated with adulthood; geriatric and gerontological emphasis.
330. **Industrial Psychology.** (2:2:0) F.S. (G-SS) Home Study also. Prerequisite:
Psych. 111. Smith
Special application of psychology in human relations program for
management. Important issues in relation to motivation, morale, safety,
efficiency, etc.
336. **Personnel Psychology: Theory and Practice.** (2:2:0) F.S. (G-SS) Pre-
requisites: Psych. 111 and concurrent registration in Psych. 337.
Employment interviewing techniques; validation of psychological tests,
biographical questionnaires.
337. **Practicum in Personnel Psychology.** (2:1:6) F.S. (G-SS) Prerequisites: Psych.
111 and concurrent registration in Psych. 336.
Supervised experience in testing, job analysis, interviewing, and ex-

posure to current personnel programs now in effect. Lecture will cover new material and discuss practicum experience.

350. (Sociol.-Psych.) **Introduction to Social Psychology.** (3:3:0) F.S.Su. Home Study also. (G-SS) Prerequisite: Psych. 111 or Sociol. 111. Hardy, Stimpson
Nature of social influence; socialization; concepts of norm, role status; development of beliefs and attitudes; leadership; and group processes. Applications to prejudice, persuasion, and social control.
357. (Sociol.-Psych.) **Group Relations and Leadership.** (3:2:2) F.S.Su. Prerequisite: Psych. 111 or Sociol. 111. Brown, Daniels, Hardy, Moffitt, Stimpson
Designed to help the individual participate effectively in groups and to assist leaders to become efficient in role performance.
360. **Sensation and Perception.** (3:3:0) F.S.Su. (G-SS) Prerequisite: Psych. 111. Allen, Budge
Sensory mechanisms, sensory dimensions and measurements; theories of organization; perception of space, time, self, persons; relationship between perception, learning, thinking, motivation and personality.
362. **Cognitive Processes.** (3:3:0) F.S. (G-SS) Prerequisite: Psych. 111. Daniels
A study of thinking, language and thought, concept formation, memory, and the teaching and learning of strategies for synthesis, analysis, and creative problem solving.
365. **Motivation.** (3:3:0) F.S.Su. (G-SS) Prerequisite: Psych. 111. Hardy
Core course for majors and other advanced students. Theories of motivation; research methods and results; bases of motivation; emotions and motivation; measuring motivation; motivation as related to learning and cognitive processes; and practical implications.
369. **Psychological Methods.** (3:3:0) F.S.Su. (G-SS) Prerequisite: Psych. 111.
Does not satisfy the math., science, logic, and statistics group requirement.
The empirical orientation of psychology, including a survey of research strategies and designs, techniques of data collection and analysis, and problems of testing and assessment.
370. **Elementary Psychological Statistics.** (4:3:2) F.S.Su. Prerequisites: Psych. 111; Math 105 or equivalent. Brown, Cooper, Higbee, Pedersen, Smith
Introduction to descriptive and inferential statistics. Measures of central tendency, variability, correlation; sampling theory, tests of significance; and reliability and validity.
374. **Experimental Psychology.** (3:1:4) F.S.Su. Prerequisites: Psych. 111, 370 or equivalent. Allen, Merrill
Psychological methodology and its application to fields of sensation, perception, emotion, learning, motivation and individual differences; conducting and reporting of representative experiments.
378. **Psychological Tests and Measurement.** (3:2:2) F.S.Su. Prerequisites: Psych. 111, 370. Pedersen
Core course for majors, minors, and other advanced students; statistical methodology of assessing and interpreting abilities; tests of abilities and their purposes; and group differences of abilities.
385. **Physiological Psychology.** (3:3:0) (G-SS) F.S.Su. Prerequisite: Psych. 111. Merrill
Examination of the physiological foundations of behavior and their relation to behavior phenomena.
430. **International Behavior.** (3:3:0) F. (G-SS) Hardy
Consideration of images, attitudes, belief systems, and motives as they affect international relationships. Reviews research on conflict and its resolution, game theory, and bargaining behavior.

440. **Abnormal Psychology.** (3:3:2) F.S.Su. (G-SS) Prerequisites: Psych. 111 and five additional hours in psychology. Bennion, Howell, Payne, Thorne
Dynamics of maladjustment; implications for normal behavior; review of major and minor psychological disorders; modern therapeutic procedures; and field work at Utah State Hospital.
445. **Exceptional Children.** (3:3:0) S.Su. Home Study also. Prerequisite: Psych. 111. Allen, Cundick, Thorne
Diagnosis of exceptionalities and their psychological significance; gifted, mentally retarded, physically and emotionally handicapped children; and treatment measures. Survey course for students interested in management of children.
450. **Personality.** (3:3:0) F.S.Su. (G-SS) Home Study also. Prerequisite: Psych. 111. Daniels, Pedersen, Thorne
Development and organization of personality structure; interaction of biological, psychological, and cultural determinants; and measurement of personality.
454. **Psychology of Religion.** (2:2:0) S. (G-SS) Prerequisite: Psych. 111. Allen
Classification of religious behavior and experience; sources of religious motivation; religion and the growth process; personality and religious choices; and mental hygiene assets and hazards in religion.
460. **Principles of Learning.** (3:3:0) F.S.Su. (G-SS) Prerequisite: Psych. 111. Cooper, Jensen, Merrill
A comprehensive study of the principles of learning; representative experiments; types of learning; principles of effective learning; and implications for clinical, educational, and social fields.
478. **Psychology of Individual Differences.** (3:3:0) F.S.Su. (G-SS) Prerequisite: Psych. 111. Jensen, Thorne
Individual differences in human and infra-human species. Constitutional types, sex, age, and racial characteristics.
- 491R. **Psychology Seminar.** (1:1:0 ea.) F.S.Su.
One seminar required of psychology majors. Reports and discussions of special topics and current psychological literature.
495. **Independent Readings.** (1-2:Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.
498. **Senior Project.** (2:1:3) F.S.Su. Prerequisites: Psych. 370, 374, and senior standing.
An opportunity for the exceptional senior student to pursue individual research. Oral and written report required. Recommended for those anticipating graduate work in psychology.
510. **The Psychology of Aesthetics.** (2:2:0) (Offered alternate years) Prerequisite: Psych. 111. Daniels
The arts of perceptual stimuli; the nature of artistic creativity; psychological symbolism expressed in the arts; and the artist as a person.
520. **Research and Method in Genetic Psychology.** (3:3:0) S. Cundick, Jensen
An overview of major research in genetic psychology, with emphasis placed on theory, content, and methodology.
526. **Mental Retardation.** (2:2:0) S.Su. Prerequisite: Psych. 378 or equivalent. Allen, Thorne
530. **Theory and Research in Social Psychology.** (3:3:0) S. Prerequisite: Sociol.-Psych. 350. Hardy, Smith, Stimpson
A survey in depth, of current theory and research in social psychology, with emphasis on understanding the individual in his interpersonal interaction.

- 550. Personality Theory.** (3:3:0) S.Su. Prerequisites: Psych. 111, 450, and five additional hours in psychology. Allen, Howell, Moffitt, Thorne
A critical review of the contemporary theories of personality that have been developed within the framework of major psychological systems.
- 555. (Sociol.-Psych.) Group Dynamics.** (3:3:0) S. Prerequisite: Sociol.-Psych. 350. Brown, Daniels, Hardy, Moffitt, Smith, Stimpson
Research and theories in group dynamics. May be used for credit either in psychology or sociology, but not in both.
- 560. Learning Theory.** (3:3:0) F.Su. Prerequisites: Psych. 111, 460, and five additional hours in psychology. Allen, Cooper, Jensen, Merrill
A critical review of current theories of learning and persistent problems.
- 561. Introduction to Psycholinguistics.** (3:3:0) S. Prerequisite: Psych. 111. Brown
A survey of research and theory in verbal learning and verbal behavior, and the social implications of language usage.
- 562. Perception and Cognition.** (3:3:0) Prerequisites: Psych. 360, or 362, or equivalent; graduate standing or consent of instructor. Allen, Daniels
A study of major theoretical and empirical developments in perception and cognition, with emphasis on the interaction of sensory, perceptual, learning, and thinking processes.
- 565. Motivational Psychology.** (3:3:0) F. Prerequisites: Psych. 365 or equivalent; graduate standing or consent of instructor. Daniels, Hardy
Historical development of motivational psychology; theoretical and empirical overview of the field; recent trends and current issues. Role of animal studies; methodological problems.
- 570. Computer Use in Behavioral Sciences.** (3:3:6) F.S. Prerequisites: Psych. 370; Comput. Sci. 331; or equivalent. Carlson
The use of electronic digital computers in the behavioral sciences.
- 574. Advanced Experimental Psychology.** (2:1:5) S. Prerequisites: Psych. 111, 374 or equivalent. Merrill
Principles of instrumentation; varieties of experimental designs; and nature of experimental controls. Gives experience in planning, conducting, and reporting original exploratory experiments.
- 580. Comparative Psychology.** (3:3:0) S. Prerequisite: Psych. 111. Merrill
Survey of methods and results of research on animal learning, innate behavior, motivation, individual differences, social behavior, and abnormal behavior; correlation of structure with function.
- 583. Behavior Modification Techniques.** (3:2:2) F.S.Su. Thorne
Various practical applications of principles of behavior modification to academic, discipline, and emotional target behaviors of individuals and groups.
- 585. Advanced Physiological Psychology.** (3:3:0) F. Prerequisite: Psych. 111. Merrill
Critical study of physiological processes and psychological functions; physiological mechanisms underlying behavioral processes, including sensation, emotion, sleep and activity, motivation, and learning.
- 598R. Independent Research.** (1-3:0:2-6 ea.) F.S.Su.
- 610. History and Systems of Psychology.** (3:3:0) S.Su. Prerequisite: graduate standing. Allen, Howell
A survey of the origins and development of modern psychology including consideration of the schools and theoretical systems which have emerged up to the present day.
- 620. Advanced Genetic Psychology.** (3:3:0) (Offered alternate years) Prerequisite: Psych. 520. Cundick
A critical consideration within the developmental framework of factors

affecting socialization, intelligence, motor development, language processes, and other important behavioral variables.

628. **Psychology of the Physically Handicapped.** (2:2:0) F. (Offered alternate years) Prerequisite: Psych. 378.
630. **Attitude Change.** (3:3:0) F. Prerequisite: graduate standing or consent of instructor. Stimpson
An examination of various theoretical approaches to the study of attitude development, change, and assessment, including a focus on both individual and mass persuasion.
640. **Intelligence Testing.** (3:3:5) F.S.Su. Prerequisites: Psych. 378 or Ed. 645 and consent of instructor. Bennion, Cundick, Howell
641. **Personality Testing.** (3:2:3) F. Prerequisites: Psych. 550 and 640. Bennion, Robinson
642. **Child and Adolescent Assessment.** (3:2:6) S. Prerequisite: Psych. 640. Bennion, Cundick
643. **Adult Assessment.** (3:2:5) Prerequisite: Psych. 641. Howell
644. **Advanced Rorschach.** (3:2:5) S. Prerequisite: Psych. 643. Bennion, Howell
645. **Professional Problems in Psychology.** (3:3:0) S. Prerequisite: major or minor in psychology. Howell
646. **Community Mental Health.** (3:2:2) (Offered alternate years) Prerequisite: at least second-year graduate standing in the Psychology Department. Howell
Program evaluation, epidemiology of crime, alcoholism, suicide, psychoses, and mental retardation.
651. **Psychopathology.** (3:3:2) F. Prerequisite: nine hours in psychology. Bennion, Howell, Thorne
654. **Dynamics of Religious Behavior.** (3:3:0) Prerequisite: Psych. 111. Allen
662. **Complex Thought Processes.** (3:3:0) S. Prerequisite: Psych. 360. Daniels
665. **Human Motivation.** (3:3:0) F.S. Prerequisites: Psych. 365 or equivalent; graduate standing in psychology or allied discipline. Hardy
670. **Advanced Statistics I.** (3:3:2) F. Prerequisite: Psych. 370. Pedersen
671. **Advanced Statistics II.** (3:3:2) S. Prerequisite: Psych. 670. Pedersen
672. **Psychological Scaling.** (3:3:0) S. (Offered alternate years) Prerequisite: Psych. 670. Pedersen
Scaling theory and methodology, with emphasis upon measurement in psychophysics and differential psychology.
673. **Multivariate Analysis in Psychology.** (3:3:0) S. (Offered alternate years) Prerequisite: Psych. 670. Pedersen
The principal descriptive statistics used in the analysis of multiple measurements: factor analysis, canonical correlation, multivariate analysis of variance and covariance, and multiple discriminant analysis.
675. **Personality Dynamics.** (3:3:0) F. Prerequisites: undergraduate core courses and consent of instructor. Howell, Moffitt, Thorne
678. **Measurement Theory.** (3:3:0) S. Cooper, Pedersen
680. **Introduction to Psychotherapy.** (3:3:0) S. Prerequisites: undergraduate core courses and consent of instructor. Bennion, Robinson, Thorne
681. **Group Therapy.** (3:1:6) S. Prerequisite: Psych. 680. Howell, Thorne

- 682. Child Therapeutic Techniques.** (3:3:3) S. Prerequisites: undergraduate core courses and consent of instructor. Cundick, Howell, Thorne
- 683. Behavior Modification Therapy.** (3:2:1) F.S. Prerequisites: Psych. 460, 680; or equivalent. Thorne
- 690. Seminar: Research Problems.** (2:2:0) F.
- 695R. Independent Readings.** (1-2:Arr.:Arr. ea.) F.S.Su.
- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
- 730. The Consultative Process.** (3:2:2) (Offered alternate years) Prerequisite: Psych. 357. Moffitt, Stimpson
Nature of the consultative relationship. Essential elements involved in consultation, forces operating in consultation, relationship, developing effective strategy for consultation.
- 740R. Practicum in Assessment.** (3:0:8 ea.) F.S.Su. Prerequisites: Psych. 642, 643. Bennion, Howell, Payne
- 749R. Clinics Practicum.** (1-2:0:3-6 ea.) F.S.Su. Prerequisites: Psych. 640, 680; graduate standing or consent of instructor. Cundick, Howell, Payne, Thorne
Supervised practical experience in individual and group testing and therapy, in various clinical settings.
- 750,751,752,753. Clinical Internship.** (0:0:32 ea.)
- 757. (Sociol.-Psych.) Practicum in Group Development.** (3:1:4) Prerequisites: graduate standing in psychology or sociology; Sociol.-Psych. 357, 555, consent of instructor.
- 781R. Practicum in Psychotherapy: Child.** (3:0:8 ea.) S. Prerequisite: Psych. 682. Bennion, Howell, Thorne
- 784R. Sensitivity Training.** (0:0:3 ea.) F.S. Howell
- 789R. Practicum in Psychotherapy: Adult.** (3:0:8 ea.) F.Su. Prerequisite: Psych. 680. Bennion, Howell, Thorne
- 790R. Seminar in Genetic Psychology.** (2:2:0 ea.) Prerequisite: consent of instructor. Cundick
- 791R. Seminar: Personality.** (2:2:0 ea.) Prerequisite: consent of instructor.
- 792R. Seminar: Social Psychology.** (2:2:0 ea.) Prerequisites: consent of instructor; Sociol.-Psych. 350. Hardy, Smith, Stimpson
- 793R. Seminar: Perception and Cognition.** (2:2:0 ea.) Prerequisite: consent of instructor.
- 794R. Seminar: Motivation.** (2:2:0 ea.) Prerequisite: consent of instructor. Daniels, Hardy
Consideration of selected topics in motivation.
- 795R. Seminar: Learning.** (2:2:0 ea.) Prerequisite: consent of instructor. Cooper, Jensen, Merrill
- 796R. Seminar: Psychotherapy.** (2:2:4 ea.) S. (m) Prerequisite: consent of instructor.
- 797R. Independent Research.** (1-4:0:3-12 ea.) F.S.Su. Prerequisite: consent of instructor.
- 799. Ph.D. Dissertation.** (Arr.) F.S.Su.

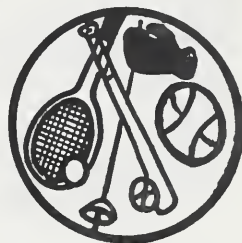
Recreation Education

Professors: Hartvigsen, I. Heaton, C. Jensen.

Associate Professors: Call, Hafen (chairman, 273-C RB), Packer, Shaw.

Assistant Professors: deHoyos, A. Heaton, M. Jensen, Naylor, Olsen, Thorstenson.

Instructors: Hansen, Mavor, Palmer.



A student interested in this field may obtain a recreation major, a minor, or a composite major. He may also take specified recreation courses to fill certain general education requirements, and he may register for recreation courses on an elective basis.

Recreation Education Major

Majors are required to complete 40 hours of course work for the major, and select a complementary minor or area of special emphasis. Included in the major are Rec. Ed. 123, 301, 337, 371, 387, 388, 407, 479, 505; Health 121; Hort. 475; and courses in individual sports. Detailed program outlines are available at the department chairman's office, 273-C RB.

Master's Degree

The master's-degree program provides the opportunity for students to obtain a Master of Arts or a Master of Recreation Education degree. Areas of special emphasis include the following options: community school recreation, therapeutic recreation, and recreation administration.

Information concerning these programs may be obtained from the department chairman's office, 273-C RB.

Recreation Education Minor

Students minoring in recreation education should take the following courses: Rec. Ed. 123, 301, 337, 407, and 505, plus two additional courses selected from Rec. Ed. 370, 371, 387, 388, 410, 502, 503 (15 hours total).

Those recreation education majors who minor in horticulture should take Hort. 103, 317, 318, 319, and 430 (14 hours).

Composite Major

See the Education section of this catalog.

Seasonal Intramural Participation

Students are encouraged to participate in the following intramural activities, which are on a noncredit basis. These activities are conducted from 6:00 to 10:00 p.m. on Monday, Wednesday, and Thursday evenings, and all day on Saturday. Further information is available at the Intramural Office, Room 112 RB.

Fall	Winter	Spring
Badminton	Badminton doubles	Bicycle racing
Coed dance	Basketball	Chess
Coed golf	Checkers	Coed archery
Coed table tennis	Coed badminton	Coed dance

Coed tennis
Coed volleyball
Cross-country run
(turkey trot)
Flag football
Horseshoes
Paddleball
Tennis
Weight lifting meet

Coed bowling
Coed dance
Coed paddleball
Coed skiing
Fencing meet
Gymnastics meet
Handball
Paddleball doubles
Swimming and diving
Table tennis
Table tennis doubles
Water basketball
Wrestling

Coed horseshoes
"Fite" night
Golf
Handball doubles
Horseshoe doubles
Rugby
Soccer
Softball
Tennis doubles
Track and field
Volleyball

Courses

123. **Introduction to Outdoor Recreation.** (1:0:3) F.S. (m) Hansen
223. **Fundamentals and Techniques of Mountaineering.** (2:1:3) F.S.Su. (m)
Techniques of climbing on mountains, rocks, snow, and ice; leadership in group conduct and conservation; knowledge about food, climate, and clothing; and practices for safety, first aid, and rescue.
301. **Introduction to Recreation.** (2:2:0) F.S.Su. (m) deHoyos, Thorstenson
337. **Philosophy of Recreation.** (2:2:0) F.S.Su. Home Study also. (G-SS m)
Hansen, deHoyos, Thorstenson
370. **Introduction to Recreation Therapy.** (3:3:0) F.Su. (m) Call
Designed to introduce the student to the concepts and practices of recreation therapy.
371. **Family Recreation.** (2:2:0) F.S.Su. (m) A. Heaton
387. **Planning for Social Recreation.** (2:2:0) F.S.Su. Home Study also. (m)
A. Heaton
388. **Leadership in Dance.** (2:2:0) F.S.Su. (m) A. Heaton
Designed to give experience and training in dance for community, school, and church recreation leaders.
407. **Administration of Playgrounds and Community Centers.** (3:3:0) F.S.Su. (m)
Prerequisites: Rec. Ed. 301, 337, 387. Hafen, Hansen
410. **Problems and Trends in Outdoor Recreation.** (2:2:0) S.Su. (m) C. Jensen
470. **The Therapeutic Recreation Program.** (2:2:0) S.Su. (m) Prerequisite: Rec. Ed. 370 or equivalent. Call
Problems of organization and administration of recreational therapy programs in resident and nonresident facilities.
479. **Directed Leadership in Recreation.** (4-8:1:20-40) F.S.Su. Prerequisite: Rec. Ed. 407 or consent of instructor. Naylor
Supervised experience in public and/or private recreational programs.
502. **Camping Workshop.** (2:2:4) F.Su. (m) Fee required. Hansen, Packer
Featuring training and preparation for a week of laboratory experience in a primitive area.
503. **Administration of School and Community Camps.** (2:2:0) S.Su. (m) Hansen
Objectives and problems involved in establishing community and school camps. Best practices dealing with location, safety, health, and programs of activity are thoroughly analyzed.
505. **Administration of Community Recreation.** (3:3:0) F.S.Su. (m) Prerequisites: Rec. Ed. 301, 337. Naylor
Problems peculiar to the organization and administration of a community recreation program, including objectives, legal aspects, facilities, personnel, activities, records, and finance.

- 570. Therapeutic Recreation for Neurological Handicaps.** (2:2:0) F.S.Su. (m)
Prerequisites: Rec. Ed. 370, 470, or equivalent. Call
Application of recreation for patients with neurological and other general handicaps. Consideration of etiology of conditions, characteristics of individuals, and recreation programs for patients in school, community, and hospital settings.
- 583. Workshop in Recreational Dance.** (1-2:0:40-80) F.Su. A. Heaton
- 595. The Community School.** (2:2:1) F.S.Su. I. Heaton, Olsen
The basic concept of the community school, including its history, philosophy, organization, function, building utilization, typical programs, and leadership qualifications.
- 605. Community School Administration.** (2:2:0) F.S.Su. I. Heaton, Olsen
Concerned with the analysis and study of community school administrative problems, especially as they relate to leadership, finance, facilities, legal aspects, communication, and public relations.
- 609. The Recreation Program.** (2:2:0) F.S.Su. Thorstenson
- 670. Problems in Recreation for the Neuropsychiatric Patient.** (2:2:0) S.Su. Pre-requisites: Rec. Ed. 370, 470, or equivalent. Call
Includes consideration of classification, etiology characteristics, medical treatment, and recreational programs in resident, day-care, and out-patient facilities for emotionally or psychologically disturbed patients.
- 671. Therapeutic Recreation in Rehabilitation.** (2:2:0) F.Su. Prerequisites: Rec. Ed. 370, 470, or equivalent. Call
Designed to acquaint the student with the rehabilitation team and the relationship of therapeutic recreation to other members of the team.
- 679R. Internship in Community School Leadership.** (6:2:20 ea.) F.S.Su. I. Heaton, Olsen
Students are assigned to work with experienced community school directors where they gain practical experience in the areas of planning, organizing, leading, scheduling, and participating in faculty and community council meetings.
- 692. Research Methods in Recreation.** (3:3:0) F.S.Su. Shaw
- 694. Seminar in Readings.** (2:2:0) F.S.Su. Hafen
- 695. Seminar in Community-School Recreation.** (2:2:0) F.S.Su. I. Heaton, Olsen
- 696. Seminar in Problems in Recreation.** (1:1:0) S.Su. Hafen
- 698. Field Projects.** (1-4:2-5:0) F.S.Su. Hafen
- 699. Thesis for Master's Degree.** (6-9:Arr:Arr.) F.S.Su. Hafen

Religious Instruction—Ancient Scripture



Professors: R. L. Anderson, Clark, Done, Ludlow, Nibley, Sperry.

Associate Professors: Bankhead, Patch, Pearson, H. D. Peterson, Rasmussen (chairman, 121 JS), Skousen.

Assistant Professors: Bentley, Butler, Cheesman, Harris, Meservy, Nyman, Parsons, Ricks, Taylor.

Courses

- 121, 122. **Introduction to the Book of Mormon.** (2:2:1 ea.) F.S.Su. Home Study also. (G-R)
Consideration of origin, content, and teachings of the Book of Mormon.
- 211, 212. **The New Testament.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)
Course 211 deals with the Gospels and part of the Book of Acts. Course 212 deals with Paul and his letters and the literature of the early church.
- 301, 302. **The Old Testament.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)
Course 301 is a brief introduction to the structure of the Old Testament and study of its great teachings, Genesis to 1 Kings 11. Course 302 considers 1 Kings 12 to Malachi.
327. **The Pearl of Great Price.** (2:2:0) F.S.Su. Home Study also. (G-R)
Origin and content of the Pearl of Great Price.
410. **Teachings of the New Testament.** (1:1:0) F.S.Su. (G-R)
420. **Teachings of the Book of Mormon.** (1:1:0) F.S.Su. (G-R)
501. **Analysis of the Old Testament: The Pentateuch and Historical Books.** (3:3:0)
502. **Analysis of the Old Testament: Prophetic Books.** (2:2:0)
503. **Analysis of the Old Testament: Poetic and Wisdom Literature.** (2:2:0)
511. **The Gospels.** (2:2:0)
512. **Paul's Life and Letters.** (2:2:0)
513. **The General Epistles and the Apocalypse.** (2:2:0)
514. **New Testament Times.** (2:2:0)
- 521, 522. **Analysis of the Book of Mormon I, II.** (3:3:0 ea.)
523. **External Evidences of the Book of Mormon.** (2:2:0)
527. **History and Doctrines of the Pearl of Great Price.** (3:3:0)
604. **Origins of the Old Testament.** (3:3:0)
606. **The Apocrypha and Pseudepigrapha.** (2:2:0)
- 608R. **Readings in Old Testament Studies.** (1-6:1-2:0 ea.)
- 609R. **Seminar: Old Testament.** (1-6:1-2:0 ea.)

- 610. Early Christian Literature. (2:2:0)
- 611. Formation of the New Testament: Text and Canon. (2:2:0)
- 612. Textual Criticism of the New Testament. (2:2:0)
- 618R. Readings in New Testament. (1-6:1-2:0 ea.)
- 619R. Seminar: New Testament. (1-6:1-2:0 ea.)
- 621R. Seminar: Book of Mormon. (1-6:1-2:0 ea.)
- 627R. Seminar: Pearl of Great Price. (1-6:1-2:0 ea.)
- 699. Thesis for Master's Degree. (6-9:Arr.:Arr.)
- 799. Doctoral Dissertation. (Arr.)



Facets of past and present in Bible lands

Religious Instruction—Church History and Doctrine



Professors: Andrus, Barron, Doxey, Palmer, Rich, Turner.

Associate Professors: Backman, I. J. Barrett, L. Berrett (chairman, 123 JS), Bowen, Cowan, Hartshorn.

Assistant Professors: W. K. Andersen, Fugal, Garrard, M. Petersen, Stevenson.

Courses

- 231, 232. The Gospel in Principle and Practice.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)

A consideration of the basic principles of the gospel of Jesus Christ in the light of the practical needs and problems of today's youth.

- 261. Introduction to Genealogy I.** (2:2:0) F.S.Su. Home Study also. (G-R)

An introductory course in basic genealogical concepts, doctrinal background, essential record sources, modern methods of research, numerous genealogical forms and their uses, successful correspondence, writing biographies and autobiographies, an introduction to the use of the Genealogical Society Library, and one's book of remembrance.

- 324, 325. The Doctrine and Covenants.** (2:2:0 ea.) F.S.Su. Home Study also. (G-R)

Origin and contents of the Doctrine and Covenants. Course 324 gives a brief discussion of the history of the Doctrine and Covenants considering study of Sections 1 to 70. Course 325 considers Sections 71 through 136.

- 341. Latter-day Saint Church History to 1846.** (2:2:0) F.S.Su. Home Study also. (G-R)

A chronological study of Church history and doctrine.

- 342. Latter-day Saint History After 1846.** (2:2:0) F.S.Su. Home Study also. (G-R)

A chronological study of Church history and doctrine.

- 365. Applying Gospel Principles in Church Youth Programs.** (2:2:0) F.S. Home Study also. (G-R) Packer

- 370. Introduction to Religious Education.** (2:2:0) F.S. (G-R)

An introductory study of the philosophy, objectives, subject-matter areas, and related problems associated with religious education at the secondary level.

- 433. Teachings of the Living Prophets.** (2:2:0) F.S.Su. (G-R)

Distinctive doctrines of the gospel, emphasizing the teachings of the living prophets and recent conference reports.

- 435. Mormonism and Modern Scientific Thought.** (2:2:0) F.S.Su. (G-R)

A consideration of significant theological-philosophical concepts in Mormonism as they relate to certain challenging areas of modern scientific assumption involving God, man, and the universe.

- 438. Your Religious Problems.** (2:2:0) (G-R)

Consideration of problems pertaining to the individual student.

- 444. The Church in the Twentieth Century.** (2:2:0) F.S.Su. Home Study also. (G-R)
A consideration of the organizational development, programs, literature, teachings, biographies of Church leaders, and other developments in the modern era of Church history.
- 453A. Mormonism and the World's Religions.** (2:2:0) F.S.Su. (G-R)*
A survey of the non-Christian religions of the world, including comparisons with Mormon doctrine.
*(Only four hours of credit can be applied from 453A, 453B, 453C to meet the general education requirement in religion.)
- 453B. Mormonism and the Christian Tradition.** (2:2:0) F.S.Su. (G-R)*
A study of historical Christianity from its inception through the apostasy and reformation to the present.
*(Only four hours of credit can be applied from 453A, 453B, 453C to meet the general education requirement in religion.)
- 453C. American Christianity and the Rise of Mormonism.** (2:2:0) F.S.Su. Home Study also. (G-R)*
Study of the historical roots and beliefs of the major Christian faiths of America, with an emphasis on the historical setting of Mormonism.
*(Only four hours of credit can be applied from 453A, 453B, 453C to meet the general education requirement in religion.)
- 462. Genealogy and the LDS Family.** (2:2:0) F.S.Su. Home Study also. (G-R)
Prerequisite: Relig. 261.
A survey course in methods of research, indexes, filing, records, family histories, and family organizations. (Refer to Genealogy section of catalog for additional courses.)
- 471. Teaching the Scriptures.** (2:2:0) F.S. (G-R) Prerequisite: consent of instructor.
Designed for prospective seminary teachers.
- 524, 525. Analysis of the Doctrine and Covenants I, II.** (3:3:0 ea.)
- 530. LDS Theology.** (2:2:0)
- 540. Historiography and the Writing of LDS History.** (3:3:0)
- 541. Documents of LDS Church History (1820-1839).** (3:3:0)
- 542. Documents of LDS Church History (1839-1850).** (3:3:0)
- 543. Documents of LDS Church History (1850-1900).** (3:3:0)
- 544. Documents of LDS Church History (1900 to Present).** (3:3:0)
- 546. Social, Economic, and Political Thought of Joseph Smith.** (2:2:0)
- 547. Historical Setting of Mormonism.** (3:3:0)
- 551. History of the Early Church to the Fourth Century.** (3:3:0)
- 553. Christian Rites and Liturgy.** (2:2:0)
- 554. Martin Luther, Forerunner of the Restoration.** (2:2:0)
- 555. Comparative World Religions.** (2:2:0)
- 556. Comparative World Religions.** (2:2:0)
- 557. Religions of the Ancient Near East.** (2:2:0)
- 559. The Church in Asia.** (2:2:0)
- 570. Survey of Religious Education.** (2:2:0)
- 571, 572. Methods of Teaching Religion in Secondary Schools.** (2:5:0 ea.) Su.

- 579A,B,C,D,E. Seminar: Gospel Principles in the Scriptures and Church History. (2:5:0 ea.) Su.
A—Old Testament; B—New Testament; C—Book of Mormon; D—Doctrine and Covenants; E—Church history.
- 595A,B. Graduate Seminar. (1-2:2:0 ea.)
Discussions on religious topics of current interest for graduate students not majoring in religion.
- 596A,B. Graduate Seminar. (1-2:2:0 ea.)
Discussions on religious topics of current interest for graduate students not majoring in religion.
- 624R. Seminar: Doctrine and Covenants. (1-6:1-2:0 ea.)
- 628R. Readings in Modern Scripture. (1-6:1-2:0 ea.)
- 638R. Readings in Christian Theology. (1-2:Arr.:0 ea.)
643. Schismatic Movements in Mormon History. (2:2:0)
647. LDS Church History by Travel Study. (2:Arr.:Arr.)
- 648R. Readings in LDS Church History. (1-6:1-2:0 ea.)
- 649R. Seminar: History of Religion. (1-6:1-2:0 ea.)
653. History of the Papacy. (2:2:0) F.
654. Reformation and Counterreformation. (2:2:0)
657. Comparative Studies in American Religions. (3:3:0)
- 658R. Readings in Christian History. (1-6:1-2:0 ea.)
- 659R. Seminar in History of Asian Religion. (1-6:1-2:0 ea.)
- 668R. Readings in the History of World Religions. (1-6:1-2:0 ea.)
671. Curriculum of Religion in Secondary Schools. (2:5:0) Su.
672. Religious Curriculum Building for Secondary Schools. (2:5:0) Su. Prerequisite: Relig. 671.
- 673, 674. Methods of Teaching Religion in College. (2:5:0 ea.) Su.
675. Curriculum of Religion in College. (2:5:0) Su.
676. Religious Curriculum Building for Colleges. (2:5:0) Su. Prerequisite: Relig. 675.
677. Problems of Teaching Religion. (1:3:0)
699. Thesis for Master's Degree. (6-9:Arr.:Arr.) F.S.Su.
799. Doctoral Dissertation. (Arr.) F.S.Su.

Sociology

Professors: Ballif, Bradford, Christiansen, Dyer, Larsen, Peterson (chairman), Smith, Staley, Symons.

Associate Professors: Craig, A. DeHoyos, Duke, Gibbons, Payne, Spencer.

Assistant Professors: Blake, Brinkerhoff, Condie, G. DeHoyos, Kunz, Seggar, Slater.

Instructors: Adams, Johnson, Nalder.



Sociology is the scientific study of human relationships and interaction. Attention is given to social systems thus developed and to the norms, roles, statuses, institutions, knowledge, values, etc., which are part of these systems. Conditions of social stability and instability are also studied. Specific application of sociological concepts is made to familial, peer, religious, educational, occupational, political, medical, racial, and ethnic groups.

Two majors are offered in the Department of Sociology leading to the Bachelor of Science degree: sociology and social work. Master's and doctor's degrees are also available.

A sociology major is necessary for students planning to obtain advanced degrees and become professional sociologists—experts who will do teaching, research, consulting, etc., in the field. Sociology also provides basic preprofessional preparation for positions in

Teaching	Professional scouting	Governmental service
General counseling	Red Cross work	Crime control
Law	Community planning	Medicine
Research	Social welfare	Dentistry
Recreation	Industrial relations	

By combining a sociology major with a teaching certificate (see Education Department), one can gain a two-way employment potential. Courses listed as sociol.-psych. (sociology-psychology) may be used for credit either in sociology or psychology, but not in both.

The undergraduate major in social work provides background training leading to such positions as caseworker, vocational counselor, child welfare worker, juvenile probation officer, adult probation officer, juvenile group counselor, etc. Most of these positions are available through county and state personnel departments and require some in-service training. In addition, the undergraduate major in social work prepares students to enter a graduate school of social work.

Requirements for a Major in Sociology

Sociology majors are required to take Sociol. 111, 112, 220 or 320, 350, 397, 403, 404, 405, and to present total sociology credit from other sociology elective classes for a minimum of 33 hours. All undergraduate social work and sociology majors are required to pass Sociol. 111, 112, 220 or 320, 397, 403, and 405 with a grade of "C" (2.0) or better in order to have these courses count toward completion of graduation requirements.

Students majoring in sociology who wish to certify as secondary school teachers need to take Sociol. 512 in addition to the other classes required of majors. An outline of the requirements for secondary school certification is given in the Education section of this catalog.

Requirements for a Minor in Sociology

A minor in sociology consists of a minimum of 15 hours of sociology. It is recommended that students minoring in sociology take Sociol. 111 with the remaining 12 hours to be determined by the Sociology Department according to the needs and interests of the student.

Students minoring in sociology who wish to certify for a secondary school teaching position are required to take Sociol. 111, 112, 405, 512, and the remaining hours selected from other sociology classes. The minimum number of sociology hours required for certification is 20.

Suggested Program for a Sociology Major

Freshman Year				***Electives (other)		3
	F	S				
Forum and dev. assy.	1	1		Total Hours	16½	16½
Relig. 121, 122	2	2		Junior Year		
Engl. 111, 112	3	3			F	S
P.E. ½	½	½		Relig.	2	2
Phys. sci.	3	3		*Sociol. 397	3	
Hum. and fine arts	3	3		*Sociol. 403		2
*Sociol. 111	3			*Sociol. 350	3	
*Sociol. 112		3		Electives (minor) ...	3	3
Minor	2	3		Electives (sociol.) ...	3	4
Total Hours	17½	18½		***Electives (other)	2	5
Sophomore Year				Total Hours	16	16
	F	S		Senior Year		
Relig.	2	2			F	S
P.E. ½	½	½		Relig.	2	2
Biol. sci.	3	3		*Sociol. 404	3	
Hist. 170		3		*Sociol. 405		3
Health 130	2			***Electives (other) ...	6	6
*Sociol. 320**				Electives (sociol.) ...	3	3
(or 220)	3	3		Electives (minor) ...	2	2
Electives (sociol.) ...	6			Total Hours	16	16
Electives (minor) ...		2				

*These courses are required of all sociology majors.

**Math. 105 or its equivalent should be taken as a prerequisite to Sociol. 320. Completion of these two courses will fill the mathematics, statistics, logic, science requirement. If Sociol. 220 is taken, no prerequisite is required, but then the mathematics, statistics, logic, science requirement is not filled.

***Forum and devotional assemblies are strongly recommended as electives.

Requirements for an Undergraduate Major in Social Work

Students majoring in undergraduate social work are required to take Sociol. 111, 112, 220 or 320, 360, 362, 364, 397, 403, 405, 460, 543, and to present total sociology credit from other sociology classes for a minimum of 33 hours. Recommended electives for undergraduate social work majors are Sociol. 210, 316, 357, 380 or 383, 449, 480, 542, 551; Psych. 111, 440; Econ. 101; Anthropol. 105; Pol. Sci. 110; FEHM 351; CDFR 210 and 461; Geog. 552; among others. All undergraduate social work and sociology majors are required to pass Sociol. 111, 112, 220 or 320, 397, 403, and 405 with a grade of "C" (2.0) or better in order to have these courses count toward completion of graduation requirements.

Requirements for an Undergraduate Minor in Social Work

Students wishing to minor in undergraduate social work will take a minimum of 15 semester hours including the following sociology courses: Required are 111

or 112, 360 and 362. The remaining 6 hours are to be selected from 364, 389, 449, 460, and 543.

NOTE: A social work major **does** require a minor. Suggested minors are psychology, CDFR, family economics and home management, recreation education, etc.

Suggested Program for an Undergraduate Major in Social Work

Freshman Year		Junior Year	
F	S	F	S
Forum and dev. assy.	1	Relig.	2
Relig. 121, 122	2	*Sociol. 397	2
Engl. 111, 112	3	**Sociol. 362	3
P.E.	$\frac{1}{2}$	*Sociol. 403	2
Phys. sci.	3	**Sociol. 364	3
*Sociol. 111	3	Electives (sociol.) ..	4
*Sociol. 112	3	Minor	3
Hist. 121	3	****Electives (other) ...	4
Pol. Sci. 110	3		
Minor	2	Total Hours	17
Total Hours	15 $\frac{1}{2}$		17
Sophomore Year		Senior Year	
F	S	F	S
Relig.	2	Relig.	2
P.E.	$\frac{1}{2}$	*Sociol. 405	3
Biol. sci.	3	**Sociol. 460	2
Hum.	3	Electives (sociol.) ..	3
Health 130	2	Minor	3
*Sociol. 220		**Sociol. 543	2
(or 320)	3	****Electives (other) ...	4
**Sociol. 360	3		
***ML or lang.	3-4	Total Hours	16
Minor	2		16
Total Hours	16 $\frac{1}{2}$ -17 $\frac{1}{2}$		

Recommended Sociology Electives:

210, 316, 357, 364, 380 or 383, 389, 449, 480, 542, and 551.

*These core courses are required of all majors.

**These additional courses are required of all undergraduate majors in social work.

***Six hours are required for ML (mathematics, statistics, logic, and science requirement). Sociol. 320 and its prerequisite, Math. 105, will fill the ML requirement. If language option is chosen, 8-12 hours are required.

****Forum and devotional assemblies are strongly recommended as electives for all four years.

Recommended Electives in Related Fields:

Anthrop. 105
CDFR 210, 461
Econ. 101
FEHM 351
Pol. Sci. 110
Psych. 111, 320, 321, 445

Courses

111. **Introductory Sociology.** (3:3:0) F.S.Su. Home Study also. (G-SS m)
Foundation course designed to give groundwork for all sociological study. Presents general view of how social organization affects human behavior.
112. **Modern Social Problems.** (3:3:0) F.S.Su. Home Study also. (G-SS m) Condie
Analyzes forces in society which produce such modern social problems as war, crime, divorce, suicide, race friction, etc., and focuses attention on alleviation and prevention programs.

- 125. Applied Sociology.** (2:2:0) (F.S.Su. (G-SS m) A. DeHoyos
Presents applications of sociological principles and findings in such fields as teaching, business and industry, nursing, military life, and medicine.
- 210. Racial and Minority Group Relations.** (2:2:0) F.S.Su. Home Study also. (G-SS m) Ballif, A. DeHoyos, Payne, Seggar, Staley
Analyzes social relations among ethnic, racial, and religious groups.
- 215. Social Analysis of the Communication Process.** (3:3:0) F.S.Su. (G-SS m) Prerequisite: Sociol. 111. Blake
A sociological approach to the communication process, with emphasis upon structure-function and selected social effects.
- 220. Applied Social Statistics.** (3:3:0) F.S.Su. Home Study also. (m)
Introduces elementary statistical techniques used in sociology and social work, emphasizing descriptive techniques and interpretation of statistical data. Primarily for sociology students training for applied fields such as social work and teaching.
- 300, 301. People and Cultures Around the World I, II.** (1-3:Arr.:Arr. ea.) F.Su.
Limited to participants in BYU Travel Study programs.
Analyzes the principal sociological aspects of those societies included in the BYU Travel Study tours.
- 316. Social Control.** (3:3:0) S. (G-SS m) G. DeHoyos, Larsen, Payne
Considers importance of public opinion, belief, social suggestion, ceremony, personal ideals, etc., as means of controlling behavior.
- 317. Introduction to the Sociology of Religion.** (3:3:0) F. (G-SS m) Prerequisite: Sociol. 111. Seggar
An introduction to the sociology of religion focusing on factors influencing the origination, growth, and organizational development of religious systems.
- 320. Social Statistics.** (3:3:0) F.S.Su. (m) Prerequisite: Math. 105 or its equivalent (thus making it possible for mathematics, statics, logic, science requirement to be filled). Brinkerhoff, Condie
Covers basic statistical procedures used in sociological research, emphasizing inductive techniques. Primarily for students planning to do graduate work in sociology.
- 348. Collective Behavior.** (2:2:0) S. (G-SS m) Ballif, Blake, Larsen
The action of groups which operate without clearcut direction from the culture within which they are found. Such groups as lynching mobs, riots, and crowds are analyzed as well as mass behavior and communication. The causes, nature, and consequences of such behavior are considered.
- 350. (Sociol.-Psych.) Introduction to Social Psychology.** (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisite: Sociol. 111 or Psych. 111. Seggar
Nature of social influences; socialization; concept of norm; role and status; development of beliefs and attitudes; leadership; group processes. Applications to prejudice, persuasion, social control.
- 357. (Sociol.-Psych.) Group Relations and Leadership.** (3:3:0) F.S.Su. Home Study also. (m) Dyer, Hardy, Spencer
Designed to help the individual participate effectively in group life and to assist leaders to become efficient in role performance.
- 360. Introduction to the Field of Social Work.** (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 111 or 112. Slater
Covers historically and sociologically man's attempts to meet his general welfare and social services needs and then moves into a consideration of

the fields, methods, etc., of modern social work and its implications for the related professions.

- 362. Introduction to the Social Services: Individual.** (3:3:0) F.S.Su. (m) Pre-requisite: Sociol. 360. Gibbons, Nalder
Analyzes the philosophy, principles, and practices, historically and currently used, in providing social services for man on an individual (now called casework) basis.
- 364. Introduction to the Social Services: Group.** (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 360 and 362. Gibbons
Analyzes the philosophy, principles, and practices, historically and currently used, in providing social services for man on a group (now called group work) basis.
- 380. Introductory Criminology and Penology.** (3:3:0) F.S.Su. Home Study also. (G-SS m) Smith, Symons
Analyzes nature and extent of criminal behavior. Emphasizes current theory and research as they relate to the causes of crime.
- 383. Juvenile Delinquency.** (2:2:0) F.S.Su. (G-SS m) Home Study also. Pre-requisite: Sociol. 111. G. DeHoyos, Smith, Symons
Analyzes lawlessness of children and adolescents. Stresses causation, treatment, prevention, and outlook.
- 386. Organized Crime.** (2:2:0) S. (G-SS m) Prerequisites: Sociol. 111, 380 or 383. Symons
Presents historical background for the development of organized crime in the United States. Considers proposals for prevention.
- 389. Social Aspects of Mental Health.** (3:3:0) F. Home Study also. (G-SS m) Christiansen, Symons
Considers personality disorders and emotional maladjustments which originate in group life, and studies social causation, treatment, and prevention of mental ills.
- 397. Methods of Research in Sociology.** (3:3:0) F.S.Su. Home Study also. (G-SS m) Prerequisites: Sociol. 111, 220 or the equivalent or consent of instructor. Brinkerhoff
Basic methods of research used in investigation of sociological data.
- 403. Marriage and the Family in American Society.** (2:2:0) F.S.Su. Home Study also. (G-SS m) Kunz, Staley
Analyzes the effect that American society has upon successful marriage and family living. Problems connected with the roles of child, adolescent, wife, husband, and the aged are discussed.
- 404. Development of Sociological Theory.** (3:3:0) F.S.Su. (G-SS m) Prerequisite: Sociol. 111. G. DeHoyos
Analyzes the development of prominent sociological theories and the contributions of outstanding theorists.
- 405. Social Systems Analysis.** (3:3:0) F.S.Su. (G-SS m) Prerequisite: Sociol. 111.
Analysis of generalizations derived by sociology concerning how social interactions, groups, institutions, roles, statuses, and culture affect human behavior.
- 420. Population Problems.** (3:3:0) F. Home Study also. (G-SS m) Kunz, Payne
The relationship of population factors to important problems encountered in education, labor, government, and other facets of modern life.
- 423. Rural Sociology.** (2:2:0) S. (G-SS m) Prerequisite: Sociol. 111. Craig, Payne
A sociological study of the structure and processes of rural life. International comparisons are made.

- 426. The Sociology of Urban Life.** (3:3:0) S. (G-SS m) Prerequisite: Sociol. 111. Smith
A sociological examination of norms, social controls, and social processes (and changing patterns in all of these) as they are seen in urban social life in both historical and contemporary perspective. Human ecology is also emphasized.
- 446. Sociology of Industrial Relations.** (3:3:0) S. (G-SS m) Dyer, Larsen
Role that social forces play in determining industrial organization. Emphasizes labor-management relations and problems of applied industrial sociology.
- 449. Community Organization, Action, and Planning.** (2:2:0) F. Home Study also. (G-SS m) Ballif, A. DeHoyos, Larsen, Staley
Basic fundamentals of community life. Analyzes techniques and methods for organizing community resources for efficient achievement of community objectives.
- 450. Complex Organizations.** (3:3:0) F.S. (G-SS m) Prerequisite: Sociol. 111. Brinkerhoff, G. DeHoyos, Kunz
An examination of theoretical approaches and empirical studies of complex organizations such as industries, military, university systems, hospitals, etc.
- 460. Senior Field Experience in Social Work.** (3:2:3) F.S.Su. Prerequisites: 9 hours of sociology plus Sociol. 360 and 362 or 364 (360 not to run concurrently).
Students with preprofessional social work orientation will be expected to work with a social worker in a local welfare agency setting three hours a week. For an additional 2 hours the instructor, social worker, and students will meet in a seminar capacity to discuss experiences, ameliorative efforts, etc.
- 470. Social Change.** (3:3:0) S. Su. (G-SS m) Prerequisite: Sociol. 111. Bradford, Craig, A. DeHoyos, Larsen, Peterson, Spencer
Analyzes the factors and processes of social change.
- 480. Sociology of Aging.** (2:2:0) F. (G-SS m) Bradford
Analyzes societal factors as they affect aging. Discusses demographic factors, political implications, agencies serving the older citizens, and role of the community in solving problems of aging.
- 491. Senior Seminar.** (2:2:0) F.S.Su. (m) Prerequisites: Sociol. 111; senior standing.
Analysis, formation and integration of basic sociological concepts.
- 501. Political Sociology.** (3:3:0) F. (G-SS m) Prerequisite: Sociol. 111 or consent of instructor. Duke, Seggar
An analysis of power and decision-making in social groups. Social bases of government and political behavior. Relationship of governmental institutions to other societal institutions.
- 512. Sociology of Education.** (2:2:0) S. (G-SS m) Ballif, Smith
Analyzes principles of sociology of education and their implication for theory and practice of school administration, curricula, and methods of instruction.
- 516. Sociology of Religion.** (2:2:0) F. Home Study also. (m) Seggar, Staley
Analyzes influences of social factors in development of various religious systems.
- 524. Advanced Social Statistics.** (3:3:0) F. (m) Prerequisite: Sociol. 111. Brinkerhoff, Condie
Advanced course designed for those who intend to do research or continue in graduate work.

530. (Sociol.-Psych.) **Theory and Research in Social Psychology.** (3:3:0) S. Pre-requisite: Sociol.-Psych. 350. Blake, A. DeHoyos, Larsen
A survey in depth of current theory and research in social psychology, with emphasis on understanding the individual and his interpersonal interaction.
542. **Social Movements.** (2:2:0) S. (G-SS m) Payne, Seggar
Analyzes social movements as attempts to promote or resist change: focusing on civil unrest, racial violence, and student activism.
543. **Social Legislation.** (2:2:0) S. (m)
Basic problems and techniques of social legislation. Analyzes various systems now in operation. Treats law for the social worker and counselor.
551. **Sociology of Leisure.** (2:2:0) S.Su. (m) Ballif, Payne
Treats recreation and other leisure activities of various social groupings, and factors related to participation in them.
552. **Personality: Culture and Society.** (3:3:0) F. (m) Prerequisite: Sociol. 111 or Psych. 111. Christiansen, G. DeHoyos, Dyer, Larsen, Staley
Study of the role of culture and society in the forming and functioning of personality. Compares various peoples and cultures.
555. (Sociol.-Psych.) **Group Dynamics.** (3:3:0) F.S. (m) Prerequisite: Sociol. 350. Dyer, Larsen
Analyzes research and theories of group dynamics.
560. **The Family Institution.** (2:2:0) S. (m) Bradford, Christiansen
Emphasizes the family in several different societies and problems created by various family systems.
561. **Contemporary Sociological Research.** (2:2:0) S. (m)
570. **Class, Status, and Power.** (3:3:0) S. (m) Prerequisite: Sociol. 111. Duke, Seggar
A sociological examination of the causes and effects of stratification, the types of stratification systems, and the nature of social classes in various societies. Special problems such as social mobility, equality, and poverty are analyzed.
571. **Latin-American Social Change.** (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 111 or 112 or consent of instructor. Craig, Spencer
Analysis of contemporary Latin-American urban and rural social structure and the processes of social change in modernization in Latin America.
572. **Rural Social Development in Latin America.** (3:3:0) S. (m) Prerequisite: Sociol. 111 or 112 or consent of instructor. Craig, Spencer
Study of contemporary peasant and Indian society; variables impeding and effecting social changes; strategies and skills of planned change in private public social change programs.
580. **Medical Sociology.** (3:3:0) S. (m) Prerequisite: Sociol. 111 or Psych. 111. Condie, Peterson
Analyzes the structure of medical and health organizations and the social roles of the patient, the physically disabled, and the medical practitioners.
590. **Seminar in Criminal Behavior Systems.** (2:2:0) F.S.Su. (m) Prerequisite: Sociol. 380. Smith, Symons
A study of the research and theory concerning criminal typologies; a diagnostic course to complement Sociol. 591 which deals with contemporary corrections.
591. **Seminar in Crime Causation and Treatment.** (2:2:0) F.Su. (m) Pre-requisites: Sociol. 111, 380. Smith, Symons
Considers the major causes of crime and analyzes prevalent theory and techniques of treatment of criminals.

595. **Directed Readings.** (1-3:0:2-6) F.S.Su. (m)
Readings in special areas.
596. **Directed Readings.** (1-3:0:2-6) F.S.Su. (m)
Readings in special areas.
597. **Advanced Research Methods.** (3:3:0) S. (m) Prerequisite: Sociol. 397.
Brinkerhoff, G. DeHoyos, Peterson
Analyzes methods used in investigation of sociological data. Field projects give the student actual experience in research.
623. **Demographic Analysis.** (3:3:0) S. Prerequisite: Sociol. 420.
The discipline of demography, with the special methods and procedures, is analyzed. Major current research in the field receives careful coverage.
626. **Contemporary Urban Social Structure.** (3:3:0) S. Prerequisite: Sociol. 426 or consent of instructor. Staley
Research-oriented examination of social forces in contemporary urban life which influence patterns of human interaction.
630. **(Sociol.-Psych.) Attitude Change.** (3:3:0) F. Prerequisite: graduate standing or consent of the instructor. Blake
An examination of various theoretical approaches to the study of attitude development, change, and assessment, including a focus on both individual and mass persuasion.
660. **Familial Role Structure.** (3:3:0) S. Prerequisite: Sociol. 403. Bradford, Kunz
Analysis of the various roles in the family, with their attendant characteristics and problems, in various societies, but particularly in the United States.
671. **Problems in Latin-American Social Development.** (2:2:0) F.S.Su. (m) Prerequisite: graduate standing. Craig, A. DeHoyos, Spencer
Examination of significant social problem areas: migration, land tenure, population, education, religion, colonization, labor organization, peasant movements, programmed change, social mobility, etc.
686. **Problems in Race Relations.** (2:2:0) F. Ballif, A. DeHoyos, Staley
Considers significant problems of a specialized nature in the field of race relations.
690. **Seminar in Contemporary Sociological Theory.** (2:2:0) S.Su. Prerequisites: Sociol. 404 and 405. Bradford, G. DeHoyos, Duke, Spencer, Staley
An advanced course in sociological theory.
691. **Seminar in Sociological Theory Building.** (2:2:0) S. Prerequisites: Sociol. 404, 405, and 690. Bradford, Duke, Peterson
An advanced course in sociological theory building.
692. **Seminar in Problems of Rural Society.** (3:2:1) F. Prerequisite: Sociol. 423 or consent of instructor. Christiansen, Spencer
Field-type training, with on-the-job contacts with county agents, etc. Findings from these contacts will be the classroom material.
693. **Seminar in Sociology of the Family.** (2:2:0) F.S.Su. (m) Prerequisite: Sociol. 403. Kunz, Peterson
Comprehensive analysis of sociology of the family, with special emphasis on current research, theoretical models, and research techniques employed.
694. **Directed Research.** (1-3:0:2-6) F.S.Su.
Research in special areas.
696. **Seminar in Industrial Sociology.** (3:3:0) S. Prerequisite: Sociol. 446. Dyer, Larsen
Designed to give added insight by careful attention to current trends in industry, labor-management developments, government, participation, etc.

697. **Seminar in Survey Research.** (3:3:0) S. (m) Prerequisite: Sociol. 397 or equivalent; graduate standing in sociology or allied discipline. Peterson
Analysis of survey research as a specific research technique on the behavioral sciences, with emphasis on survey research designs and sampling designs.
698. **Seminar in the Development of Sociological Theory.** (2:2:0) F. Prerequisites: Sociol. 404, 405. Duke
Analyzes contributions of sociological theorists, including Durkheim, Weber, Pareto and Simmel, to sociological theory development.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
701. **Advanced Statistical Methods.** (2:2:0) S. Prerequisites: Sociol. 320, 524.
Consideration of advanced statistical techniques such as scalogram analysis, factor analysis, and latent structure analysis.
730. **(Sociol.-Psych.) The Consultative Process.** (3:2:2) (Offered alternate years) Prerequisite: Psych. 357.
Nature of the consultative relationship. Essential elements involved in consultation, forces operating in consultation relationship, developing effective strategy for consultation.
757. **(Sociol.-Psych.) Practicum in Group Development.** (3:1:4) Prerequisites: graduate standing in psychology or sociology; Sociol.-Psych. 357, 555; consent of instructor. Dyer
760. **The Family.** (3:3:0) F.S.Su. (m) Prerequisite: Sociol. 560. Bradford
This course analyzes the family as a basic organization in society. It concentrates on family structure in various cultures.
791. **Seminar: Social Organization.** (2:2:0) F. Prerequisites: Sociol. 111, 405. Brinkerhoff, G. DeHoyos, Dyer, Peterson
Comprehensive examination of major theories of organization, with emphasis on theory construction.
792. **Seminar: Social Psychology.** (2:2:0) S. Prerequisites: Sociol. 350 and consent of instructor. Blake, A. DeHoyos, Kunz, Larsen
Special emphasis on group processes and socialization.
- 796, 797. **Special Research Problems.** (1-3:0:2-6 ea.) F.S.Su.
799. **Dissertation for Ph.D.** (Arr.) F.S.Su.

Speech and Dramatic Arts



Professors: Bateman, Clinger, Gledhill, Hansen, Low, Metten, Mitchell, Morley, Newman, Woodbury, (chairman, D-581 HFAC).

Associate Professors: Stephan, Weaver.

Assistant Professors: Frost, Gibb, Golightly, Henson, Jex, Moore, Pope, Richardson, Stewart, Struthers, Whitman.

Instructor: Jenkins.

Special Instructors: Arrington, Boorman, Faux, MacDougal, Walker, Warner, Woodard.

Speech is man's fundamental mode of communication. It is the principal means through which men exchange ideas and feelings. It provides a method of inquiry and reporting and is used to persuade or to provide inspiration or entertainment.

Human communication may be studied as a fine art, investigated scientifically, or analyzed as a rhetorical art. Students majoring in the Department of Speech and Dramatic Arts may eventually become teachers, directors, actors, clinicians, or members of any one of several related professions.

Communicative Habilitation

The area of communicative habilitation developed out of concern for people with communication impairments. The profession offers many opportunities for service to people who are handicapped in their ability to talk, hear, or use the symbols of language. Specifically, the department offers preparation in the fields of speech pathology, audiology, education of the partially hearing, and communication science. Students who complete these programs are prepared for employment as specialists in communicative habilitation in schools, hospitals, rehabilitation centers and other community agencies, and private practice. Professional certification in Utah and many other states, as well as in the American Speech and Hearing Association, requires the completion of a master's degree. Upon completion of the baccalaureate degree, there are frequent opportunities for students to obtain financial assistance to support them while they complete their required graduate study.

Dramatic Arts

The dramatic arts undergraduate curriculum is designed to lead to professional competency in teaching on the secondary level, in acting, directing, or playwrighting, or in technical theatre. And because these programs provide both theory and skill development, they also prepare the student for graduate course work and higher education careers.

Students in the dramatic arts curriculum are expected to participate in the University Theatre program. All productions are cast from open tryouts so that all students may participate. The University Theatre produces an average of 16 faculty-directed and 67 student-directed productions each year.

Speech

The area of speech offers a public address major and selected courses for personal development in argumentation and debate, communication theory, discussion, public speaking, rhetoric, and speech criticism.

Course offerings in this area serve not only the specialized needs of departmental majors, but also offer a wide selection of courses to assist students in all academic areas of the University. Experiences in understanding and applying principles of effective oral communication are particularly helpful to students in prelaw, business, communications, youth leadership, and all areas of education. The greater portion of speech majors include the teaching certification requirements in their program.

The BYU Forensic Association, under the direction of the department, offers an opportunity for all students to participate in competitive speech activities on both the on-campus and intercollegiate levels. These activities are open to the general student body, regardless of major, and a list of specific contests can be found in the description of departments of the College of Fine Arts and Communications. Interested students in all fields of study participate in about thirty debate trips during the academic year.

Graduate Study

Each major area in the department offers a challenging program for graduate study leading to the master's degree. A doctoral degree may be earned in speech and dramatic arts. Students planning graduate work must apply for admission to the Graduate School at the conclusion of their senior year. Application forms may be obtained at the office of the Graduate School, D-208 ASB. The requirements for admission are in the Graduate School Catalog.

Note: Those planning to teach in high school should see Speech and Dramatic Arts Education major below and/or Secondary Education Certification in the Education section.

Communicative Habilitation Area

Code #941

- I. Courses leading to the bachelor's degree with a major in communicative habilitation.

Speech and Dram. Arts 130, 231, 232, 340, 351, 352, 380R, 381R, 382R, 383R, 430, 431, 440, 441, and 485 or 486 or 487 35 hours

(Majors take Speech and Dram. Arts 121 and 130 for humanities general education credit.)

- II. Professional Graduate Training.

Full professional training requires the attainment of the master's degree. The bachelor's degree does not qualify a student for full-time professional employment. Additional course work is necessary to complete professional training and be eligible for certification in communicative habilitation. These additional courses are discussed following the descriptions of professional certifications given below.

- A. The American Speech and Hearing Association Certificate of Clinical Competence in Speech Pathology may be obtained through the graduate professional training program.
- B. The American Speech and Hearing Association Certificate of Clinical Competence in Audiology may be obtained through the graduate professional training program.
- C. Utah State Department of Public Instruction Professional Certificate for Public School Speech and Hearing Correctionist is obtained by earning the master's degree, with the prescribed undergraduate minor in education.
- D. Utah State Department of Public Instruction Professional Certificate for Teachers of Special Education Classes for Partially Hearing Pupils is obtained by earning the master's degree, along with appropriate professional education courses.
- E. Utah State Department of Public Instruction Professional Certificate for Public School Audiologists is obtained by earning the master's degree, with the prescribed education minor.

- III. Minor Fields of Study.

On the undergraduate level, a minor strongly recommended for communicative habilitation majors is education. Other minors are acceptable. Recommended minors for communicative habilitation on the graduate level are counseling and guidance, educational psychology, educational administration, psychology, or special education. Other minors are acceptable. Electing a minor at the graduate level is identified as Option I in the Graduate School Catalog. Option II is also described therein.

IV. Sequence of Courses in Communicative Habilitation.

Students beginning their professional courses in communicative habilitation in their sophomore year may expect to enroll for field work in the public schools during Fall Semester of their senior year. Those who begin later may have to defer this school practicum until the fifth year. Those entering the communicative habilitation field after the freshman year should consult the coordinator of the communicative habilitation area for approved variations of the following sequence.

First Year			Third Year		
	F	S		F	S
Relig.	2	2	Relig.	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	CDFR 210	3	
Health		2	Hist. 170		3
Zool. 105	3		Speech and Dram.		
Physics 100		3	Arts 352	3	
Psych. 111	3		*Speech and Dram.		
Speech and Dram.			Arts 382R	1	
Arts 130	2		Speech and Dram.		
Speech and Dram.			Arts 430	2	
Arts 121		3	Speech and Dram.		
Engl. composition	3	3	Arts 440		3
G.E. electives	3	3	*Speech and Dram.		
			Arts 383R		1
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	Ed. 301A	2	
			Ed. 360	2	
Second Year			Ed. 402		2
	F	S	**Ed. 420		4
Relig.	2	2	Electives	1	1
P.E.	$\frac{1}{2}$	$\frac{1}{2}$			
Physics 167		3	Total Hours	16	16
Zool. 261, 262		6			
Speech and Dram.			Fourth Year		
Arts 231	2			F	S
Speech and Dram.			Relig.	2	2
Arts 232	2		Speech and Dram.		
Speech and Dram.			Arts 431		2
Arts 340	4		Speech and Dram.		
*Speech and Dram.			Arts 441	3	
Arts 380R	1		Speech and Dram.		
Speech and Dram.			Arts 450		4
Arts 351		4	Speech and Dram. Arts		
*Speech and Dram.			485, or 486 or 487	4	
Arts 381R		1	Ed. 449	4	
Math. 305	3		Electives		8
Electives	4				
Total Hours	18 $\frac{1}{2}$	16 $\frac{1}{2}$	Total Hours	13	16

*Any one of these may be repeated if the student has not completed the required total of 200 clock hours of supervised clinical practice in the communicative habilitation clinic on campus.

**Ed. 420 should be taken the semester before Ed. 449.

Electives

After completing all general education requirements, it is strongly recommended that students select electives from among the following courses:

Math. 305; Ed. 340, 406, 421, 423, 424, 425; Mus. 226, 337; and Art 326.

Graduate Professional Training (Fifth Year)

In order to complete their professional training, it is necessary that students complete most 500- and 600-level courses in the area of their specialty; namely, (1) speech pathology, (2) audiology, or (3) teaching of partially-hearing pupils. Another integral part of the graduate student's program is the internship experience in one or more field agencies.

Students must consult the Graduate School Catalog to determine requirements for admission to and graduation from the Graduate School of Brigham Young University. After completing requirements for the bachelor's degree, the student may no longer enroll in the College of Fine Arts and Communications, but must apply for admission to the Graduate School. The necessary application materials are obtainable from the office of the Graduate School, D-208 ASB.

Public School Certification

For those seeking certifications for work in the public schools, a minor in education is required. It contains the following courses: Ed. 301A, 360, 402, 420, and 449. See above note under Electives.

Qualifying Procedures

After each student has completed nine semester hours of professional course work, a staff review is conducted to assess the student's ability to pursue professional training in the area of communicative habilitation. If the faculty recommends that a student not continue professional training, it may be possible for him to obtain a bachelor's degree providing he meets the University requirements for graduation. However, the student will not be permitted to complete the clinical practicum courses that would qualify him for professional employment in the field.

A student who is approved to pursue professional preparation may elect one of the following courses of action:

1. He may remain in school until he has earned the master's degree and is eligible for full professional employment. He will thus have completed all academic, practicum, and internship requirements that qualify him for a full-time position.
2. He may, at the conclusion of his baccalaureate work, pursue on-the-job training in one of the cooperating agencies. He would retain student status, continuing in school part time and working part time under professional supervision until he is fully qualified. This program takes longer but integrates valuable professional experience with academic study and often enriches the meaningfulness of classroom instruction.

Dramatic Arts Area

Code #305

A baccalaureate degree can be earned with a major in speech and dramatic arts education, acting, directing, playwriting, or technical theatre. On the freshman and sophomore levels, all dramatic arts students are registered in the general major 305, and they will complete the following core of courses which is required of every dramatic arts student.

	Hours
Speech and Dram. Arts 101.	Speech Communication 3
Speech and Dram. Arts 121.	Voice, Diction, and Interpretation 3
Speech and Dram. Arts 123R.	Fundamentals of Acting 3
P.E. 183.	Specialty Dance (Theatre) ..... .5
Speech and Dram. Arts 460.	Theory of Directing 2
Speech and Dram. Arts 461R.	Directing the One-Act-Play 1
Speech and Dram. Arts 564.	Theatre History I 3
Speech and Dram. Arts 565.	Theatre History II 3
	<hr/>
	Core Total 18.5

Admission to Major Specialty

During his first enrollment the student is assigned for counseling to an instructor in his intended specialty. At the end of his freshman year, the student is carefully counseled about his educational and career objectives and as to whether he should continue his intention to specialize as planned. At the end of his sophomore year he again is counseled carefully; he takes the junior qualifying examination; and, if the student's performance and grades warrant, he is, upon the recommendation of his counselor and an appointed dramatic arts faculty team, permitted to major in one of the five dramatic arts specialties (education, acting, directing, playwriting, or technical theatre). At that time (his first junior

enrollment), his major code number will be changed from 305 to the one which appropriately designates his dramatic arts specialty.

Transfer students must take the junior qualifying examination and be admitted to an area of specialization before registering for a second semester. All students may take speech and dramatic arts courses in addition to the core while still freshmen and sophomores, but they may not count these courses against major requirements until permitted to declare a specialized major. No junior or senior student may declare the general major (305) as only one of the five specialties will be recognized as a major on those upper-division levels.

Speech and Dramatic Arts Laboratory

Speech and Dramatic Arts Laboratory is sponsored by the department to provide practical experience and participation in the speech arts. Registration and attendance are required for many of the undergraduate classes. Three sections are held in the Nelke Experimental Theatre of the Harris Fine Arts Center on Monday at 5:10 p.m. and 7:00 p.m. and on Tuesday at 5:10 p.m.

Course Requirements for the Professional Acting Program—Code #871

Those planning to act professionally in regional, community, professional, and television acting positions, or who wish a career in teaching acting on the university level, will complete the 18.5-hour dramatic arts core as well as the following courses:

Speech and Dram. Arts 57.5 total hours
117R (4 hours), 126, 127R, 317R, (4 hours), 320, 324, 325, 327R, 423R, 572; P.E. 110, 187.

Twelve hours from the following courses upon recommendation of the adviser:

Speech and Dram. Arts 333, 360, 362, 423R, 527, 528, 529, 560.

Course Requirements for the Professional Directing Program—Code #872

Those planning to direct professionally in regional, community, and professional and television positions, or who wish a career in teaching and directing on the university level, will complete the 18.5-hour dramatic arts core as well as the following courses:

Speech and Dram. Arts 57.5 total hours
117R (4 hours), 126, 127R, 317R (4 hours), 320, 324, 325, 327, 333, 360, 362, 461R, 572; P.E. 110, 187.

Three hours selected from the following courses upon recommendation of the adviser: Speech and Dram. Arts 528, 529, 560.

Electives: Select four hours from the following: Art 110, 120; Mus. 170; Engl. 282 or 382, 341, 342, 343; Hum. 202.

Course Requirements for the Professional Playwriting Program—Code #873

Those planning a career as a professional playwright or as a university professor of playwriting will complete this sequence of courses. Acceptance into this program assumes a strong desire to write and to submit manuscripts at the suggestion of the adviser to appropriate production companies and contests.

Before being admitted into this program, the student must demonstrate proficiency in vocabulary and semantics by completing the appropriate departmental examination or by passing Engl. 225 and 326 with a grade of "C+" or higher.

The student will complete the 18.5-hour dramatic arts core as well as the following courses:

Speech and Dram. Arts 48.5 total hours
117R (3 hours), 127R (1 hour), 317R (3 hours), 319, 325, 327R (1 hour), 333, 360, 378R (6 hours), 578R (6 hours).
Commun. 373.
Engl. 343, 382.
Phil. 110, 214.

Course Requirements for the Professional Technical Theatre Program—Code #874

Those planning to become professional theatre designers, designer-technicians, or designer-costumers, and who, by the end of their second year, demonstrate ability in design, will complete the 18.5-hour dramatic arts core as well as the following courses:

- Speech and Dram. Arts 53.5-56.5 total hours
 117R (4 hours), 126, 317R (4 hours), 320, 362.
 Art 120, 121, 233.
 Electives: Select three of the following courses.
 Indus. Ed. 100; Engr. Tech. 102; Art 122; Clo. and Text. 430.
 Select two of the following courses.
 Indus. Ed. 100; Engr. Tech. 102; Art 122; Clo. and Text. 430.

Speech Area**Code #875**

Majors in speech will usually plan to teach on the secondary or college level, or use their professional training in public relations, business, and industrial communications. In addition to the University graduation requirements and the course requirements listed below, majors in speech will participate in a junior evaluation of their work. This evaluation must be completed immediately before registration for the first junior semester (or 65 or more semester hours). Transfer students above the sophomore rank must complete this evaluation before registering for a second semester at BYU.

All majors in speech are required to participate in forensic competitive activities during at least one full semester. This includes debate and at least one individual event such as oratory, extemporaneous speaking, or interpretation. Credit in the 112 or 312 series will meet this requirement.

Course Requirements for a General Major

Basic Courses: Speech and Dram. Arts 101, 111, 121, 305, 309, 371, 401, 402, 403, 491, 521, 523	26 hours
Electives selected from speech and dramatic arts	8
Total	34 hours

A Suggested Sequence of Courses

	F	S	
First year	101 (3)	121 (3)	6 hours
Second year	111 (2)	305 (2)	
	309 (1)	371 (3)	8
Third year	401 (2)	402 (2)	
	Elect. (2)	Elect. (2)	8
Fourth year	403 (2)	491 (2)	
	523 (2)	521 (2)	
	Elect. (2)	Elect. (2)	12
Total			34 hours

Speech and Dram. Arts Education (Secondary Certification)—Code #940**Requirements for Certification in Major**

Those planning to major in speech and dramatic arts and teach on the high school or secondary education level will complete the following courses:

- Speech and Dram. Arts 34.5 hours
 101, 111, 115, 121, 123, 305, 309, 319, 325, 371, 401, 460,
 461, 521; P.E. 183.
 Electives: Select three hours from the following courses.
 126, 311, 402, 403, 491, 523, 525, 564, 565.

Requirements for Certification in Minor

Those planning to minor in speech and dramatic arts and teach **both** subjects on the high school or secondary education level will complete the following courses:

Speech and Dram. Arts 21 hours
101, 111 or 305, 115, 121, 319, 325, 371, 460, 461.

Those planning to minor in dramatic arts and teach **only dramatic arts** on the high school or secondary education level will complete the following courses:

Speech and Dram. Arts 19.5 hours
101, 115, 121, 123, 126, 319, 460, 461; P.E. 183.

Electives: Select 2-3 hours from the following courses.
333, 360, 362, 572, 578.

Those planning to minor in speech (public address and forensics) and teach **only speech** on the high school or secondary education level will complete the following courses:

Speech and Dram. Arts 20 hours
101, 111, 121, 305, 309, 371, 401, 491, 521.

Courses

60. Remedial Speech. (0:0:4) F.S.Su.

Tutorial and small group work to assist college students who have disorders of communication such as articulation difficulties or stuttering. A noncredit, nonfee service course.

101. Speech Communication. (3:3:1) F.S. (G-HA)

The theory, philosophy, and application of the contemporary communications process, with emphasis on interpersonal communications. Recommended for prospective teachers and those who desire to improve their speaking effectiveness. Required for majors.

102. Introduction to Public Speaking. (2:2:1) F.S.Su. (G-HA m)

Practical service course designed to improve speech efficiency, self-confidence, and skill in organization and delivery of all types of speeches encountered in business, professional, social, and religious activities.

111. Introduction to Argument and Debate. (2:2:0) F.S. (Su. even years) (m)

Richardson, Woodard

Principles of argumentation and practice in debate.

112, 113. Debate Technique. (1:1:1 ea.) F.S.

Richardson, Woodard

Open to members of the forensic squad who obtain approval of the Speech and Dramatic Arts Department and debate council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

115. Introduction to the Theatre. (2:2:1) F.S. (G-HA) Home Study also.

Metten

Introduces the student to the fundamental theories of the theatre arts, develops a discriminating appreciation of theatre production, and provides a basic background for the area of theatre. Attendance at speech and dramatic arts laboratory required.

117R. Theatre Practicum. (1-2:0:3-12 ea.) F.S.Su.

Participation in the creative process of theatre production.

121. Voice, Diction, and Interpretation. (3:3:1) F.S.Su. (G-HA m)

Designed to give the student an introduction to the basic theories of diction and interpretation and to develop skill in vocal communication and interpretation. Attendance at speech and dramatic arts laboratory required.

- 123. Fundamentals of Acting.** (3:3:1) F.S.
An introduction to the Stanislavski theory of acting which makes practical application of theory in solo and ensemble scenes in the major areas of dramatic literature. Attendance at speech and dramatic arts laboratory required.
- 126. Makeup.** (1:1:3) F.S.Su. (m) Warner
An introduction to the theories of makeup through changing the appearance of the actor to correspond with an interpretation of characters. Attendance at speech and dramatic arts laboratory required.
- 127R. Collegium Dramaticum.** (1:1:2) F.S.
Reading of dramatic literature and study of performance practices.
- 130. Introduction to Human Communication Processes.** (2:2:0) F.S.Su. Low
A survey of intra- and interpersonal human communication, including its dynamics and the physiological and behavioral processes of reception, integration, and expression that form the foundation of human experience.
- 231. Normal Development of Human Communication.** (2:2:1) F.S.Su. Newman
Influence of physiological maturation and learning on normal development of human communication.
- 232. Phonetics.** (2:2:0) F.S.Su.
The course introduces the student to phonetic modes of thought and to phonetic symbols. It uses phonetic nomenclature in describing the principal varieties of the English language in America.
- 242. Remediation of Communicative Disorders.** (2:2:0) F.S.Su. Moore
Demonstrates how parents, teachers, and others can help children with speech, hearing, or language disorders in the home or within the context of the regular curriculum.
- 301. The Art of Public Speaking.** (2:2:0) F.S. (G-HA) Prerequisite: Speech and Dram. Arts 101, 102, or equivalent. Frost, Jenkins
Emphasizes understanding of the nature of oral discourse; provides practice in selection of materials, sound reasoning, audience analysis, oral style, and delivery. Primarily for nonmajors.
- 304p. Public Speaking.** (1:1:0) F.S.Su.
Individual instruction. Special fee.
- 305. Discussion and Conference Leadership.** (2:2:1) F.S. (Su. odd years) Jenkins, Stephan
Concerned with basic democratic procedure for cooperative thinking. Offers experience in business and industrial conference leadership. For those who serve on committees or boards; conduct classroom sessions; work in schools or offices; and for all who are preparing to participate in or lead informal discussion in small groups.
- 307. Introduction to Reasoned Discourse.** (3:2:2) F.S. Richardson
Background in classical and contemporary logic, argumentation and persuasion in oral and written discourse.
- 309. Parliamentary Procedure.** (1:1:2) F.S. Bateman
Study of the principles of parliamentary procedure and their application in a democratic society.
- 311. Advanced Debate.** (2:2:0) F.S. Richardson
Study and application of logic and reasoned discourses applicable to argumentation in debate.
- 312, 313. Debate Techniques.** (1:1:1 ea.) F.S. Richardson
Open to members of the forensics squad who obtain approval of the Speech and Dramatic Arts Department and the debate council. To obtain credit in debating, students must register for this course with at least two hours of instruction per week.

- 317R. Theatre Practicum.** (1-2:0:3-12 ea.) F.S.Su. Prerequisite: Speech and Dram. Arts 117R.
Participation in the creative process of theatrical production.
- 319. Fundamentals of Stagecraft.** (2:2:3) F.Su. (m) Henson, Pope, Struthers
Basic theories and practice of construction, painting, assembly, shifting, and lighting of stage scenery and properties.
- 320. Scene Design, Construction, and Lighting.** (5:5:3) S. Prerequisite: admission to a professional major. Henson, Pope, Struthers
Theory and techniques of designing, of construction of lighting settings for the stage.
- 324. Regional Dialects.** (2:2:0) S. Prerequisite: Speech and Dram. Arts 121. Gledhill, Mitchell
Analysis and personal mastery of those dialects which commonly occur in poetry and dramatic literature.
- 325. Advanced Interpretation and Storytelling.** (3:3:1) F.S.Su. Prerequisite: Speech and Dram. Arts 121.
Development of performance skill in dramatic reading, humorous reading, storytelling, and related platform techniques.
- 327R. Collegium Dramaticum.** (1:1:2 ea.) F.S.
Reading of dramatic literature and study of performance practices.
- 333. Dramatic Theory and Criticism.** (3:3:0) F. Metten, Whitman
Study and analysis of dramatic form and structure.
- 340. Speech Pathology.** (4:4:1) F.S.Su. Prerequisite: Speech and Dram. Arts 130. Jex
Habilitation and rehabilitation approaches to the functional disorders of speech, voice, and language. Must be accompanied by Speech and Dram. Arts 380R and 441 or consent of instructor.
- 351. Audiology.** (4:4:1) F.S. (Su. even years) Home Study also. Prerequisite: Speech and Dram. Arts 130. Morley, Weaver
Skill in administering pure tone, speech, and special audiometric tests is developed. Training in the interpretation of the audiograms is given. An introduction to the nature and use of hearing aids is made. Must be accompanied by Speech and Dram. Arts 381R.
- 352. Lipreading and Auditory Training for the Hearing Impaired.** (3:3:1) F.S. (Su. odd years) Prerequisite: Speech and Dram. Arts 351.
Rationale and methods for providing auditory training and teaching lipreading to acoustically-handicapped children or adults. Must be accompanied by Speech and Dram. Arts 382R.
- 360. Creative Dramatics.** (2:2:0) F. Mitchell, Whitman
The study of informal or improvised dramatic techniques for and with children.
- 362. Theatrical Costume Design.** (2:2:3) S. Warner
Principles and aesthetics of theatrical costume design and construction.
- 371. Forensics Programming.** (3:3:2) F.S.Su. Prerequisites: 101, 111, 121, or consent of instructor. Bateman, Frost, Richardson
Study and practice in conducting and evaluating competitive speaking events.
- 377. Secondary Teaching Procedures.** (3:3:1) F.S. Prerequisite: Ed. 301.
Lectures, demonstrations, observations. Frost, Golightly
- 378R. Playwriting.** (2:2:2 ea.) F.S.Su. Hansen, Whitman
Theory and technique of writing the one-act and full-length play.
- 380R. Clinical Methods in Speech Pathology.** (1:1:4 ea.) F.S. Jex
Practicum in functional disorders of speech and voice. Must accompany Speech and Dram. Arts 340.

- 381R. Clinical Methods in Audiology.** (1:1:4 ea.) F.S.Su. Morley, Weaver
Practice in administering audiometric tests. Must accompany Speech and
Dram. Arts 351.
- 382R. Clinical Methods in Lipreading and Auditory Training.** (1:1:4 ea.) F.S.Su.
Moore
Practicum in lipreading and auditory training. Must accompany Speech
and Dram. Arts 352.
- 383R. Clinical Methods in Neurological Communication Disorders.** (1:1:4 ea.)
F.S.Su. Low
Practicum in childhood aphasia and mental retardation. Must accom-
pany Speech and Dram. Arts 440.
- 401. Advanced Speech Composition.** (2:2:0) F.S.Su (m) Prerequisite: Speech
and Dram. Arts 101 or 102. Bateman, Frost
Advanced study and practice in techniques of speech writing, analysis,
and presentation. (Required for secondary speech teachers.)
- 402. Advanced Argumentation.** (2:2:0) S. Prerequisite: Speech and Dram. Arts
111 or 307. Stephan
Analysis of classic debates, and practice in argumentative writing and
speaking.
- 403. Persuasive Speaking.** (2:2:0) F.S. Prerequisite: Speech and Dram. Arts
101 or 102. Gibb
Consideration of the psychology, principles, and techniques of persua-
sive speaking. Practice in the applications of these factors in oral com-
munication.
- 412. Religious Drama.** (2:2:0) S.Su. Home Study also. Hansen
To give the student an appreciation of past dramatic achievements in
the LDS Church and to help the student shape standards and a philosophy
of theatre which is in harmony with the principles of the gospel.
- 423R. Advanced Acting.** (3:3:1 ea.) F.S. Prerequisite: Speech and Dram. Arts
123R. Hansen
Theory and practice of characterization in solo and ensemble scenes.
- 430. Scientific Foundations of Human Communication.** (2:2:1) F.S. (Su. odd
years) Prerequisite: Physics 167. Morley
An investigation into the basic process underlying oral communication
through experiment and instrumentation.
- 431. Anatomy and Physiology of Human Communication.** (2:2:0) F.S. (Su. even
years) Prerequisites: Zool. 105, 261, 262. Newman
Emphasis is given to the study of the anatomy and physiology related
to the processes of communication including hearing, symbolization, respira-
tion, phonation, and articulation.
- 440. Neurological Communication Disorders.** (3:3:1) F.S. (Su. even years)
Prerequisites: Speech and Dram. Arts 231, 340. Low
Nature, causes, and treatment of communication disorders associated
with brain dysfunction. Must be accompanied by Speech and Dram. Arts
383R and 641.
- 441. Diagnosis of Communication Disorders.** (3:3:1) F.S.Su. Prerequisites: Speech
and Dram. Arts 340, 351. Jex
Principles and procedures of evaluation of speech, language, and hearing
disorders of children and adults, with emphasis on implications for treat-
ment.
- 450. Teaching Language to the Partially Hearing.** (4:4:1) F.S. Prerequisite: Speech
and Dram. Arts 352. Moore
In-depth study of the objectives, principles, and techniques of teaching
language to the hearing impaired. Some planned observation is required.

- 460. Theories of Directing a Play.** (2:2:1) F.S.Su. (m) Prerequisites: Speech and Dram. Arts 101, 121, 123, 319, or equivalent. Metten, Woodbury
Prepares the student for directing assignments in educational, community, professional, or Church theatre.
- 461R. Directing the One-Act Play.** (1:1:1 ea.) F.S.Su. (m) Prerequisite: Speech and Dram. Arts 460 or equivalent. Metten, Woodbury
Theories and techniques of directing the production of a one-act play which will be presented in speech and dramatic arts laboratory.
- 479. Secondary Student Teaching.** (8:1:20-80) F.S. Prerequisites: Speech and Dram. Arts 377 and completion of two-thirds of courses required for teaching major and minor or composite major. Frost, Golightly
For course description and fees, see Ed. 479.
- 485. Speech Pathology Practicum in the Public Schools.** (4:1:25) F.S. Prerequisite: minimum of 150 clock hours of supervised clinic practicum in Speech and Dram. Arts 380R, 381R, 382R, 383R. Required of all communicative disorders majors in speech pathology.
Supervised clinical experience in the public schools in the area of speech pathology.
- 486. Audiology Practicum in the Public Schools.** (4:1:25) F.S. Prerequisite: minimum of 150 clock hours of supervised clinic practicum in Speech and Dram. Arts 380R, 381R, 382R, 383R. Required of all communicative disorders majors in audiology.
Supervised clinical experience in the public schools in the area of audiology.
- 487. Remedial Instruction of Partially-Hearing Pupils in the Public Schools.** (4:1:25) F.S. Prerequisite: minimum of 150 clock hours of supervised clinic practicum in Speech and Dram. Arts 380R, 381R, 382R, 383R. Required of all communicative disorders majors in partially hearing.
Supervised clinical experience in the public schools in the area of remedial instruction of partially-hearing pupils.
- 491. Senior Seminar in Speech.** (2:2:1) F.S.Su. Prerequisite: junior or senior standing.
A review and evaluation of the programs in speech as they can be applied to the professional field.
- 521. History of Speech Education.** (2:2:0) S. (m) Frost
Theories, practices, and techniques in the teaching of speech from the Greco-Roman period through the elocutionary period.
- 523. Rhetorical Theory.** (2:2:0) F. (Su. even years) (m) Gibb
A study of rhetorical theory and criticism of great speaking.
- 525. Debate Coaching.** (1-2:1-2:0) F.S.Su. Richardson
Designed for prospective debate coaches. Covers debate techniques and how they are taught.
- 527. Storytelling.** (2:2:0) F.S.Su. (m) Clinger, Frost
Art of storytelling. Especially valuable to teachers and youth leaders.
- 528. Repertory Theatre.** (3:2:6) F.S. Prerequisite: consent of instructor. Hansen
Theory and practice in creating repertory theatre.
- 529. Repertory Theatre.** (3:2:6) F.S. Prerequisite: consent of instructor. Hansen
Theory and practice in repertory theatre.
- 560R. Theatre Workshop.** (2-4:2-4:2 ea.) F.S.Su.
Integration in production of theatre's individual arts: literature, directing, acting, and stagecraft.

- 564. Theatre History I.** (3:3:0) F. (Su. odd years) Hansen
The history of the theatre: primitive, Egyptian, Greek, Roman, medieval, and Elizabethan periods.
- 565. Theatre History II.** (3:3:0) S. (Su. even years) Metten, Woodbury
The history of the Western and Oriental theatres: Renaissance to the present.
- 572. Children's Theatre.** (2:2:1) F.S. (m) Mitchell, Whitman
Theory and technique of creating theatre for children.
- 578R. Playwriting.** (1-2:1-2:0 ea.) F.S. (m) Hansen, Whitman
Theories and techniques of conceiving and expressing experience as dramatic literature.
- 590. Selected Reading and Projects in Public Address.** (1-2:0:0) F.S.Su.
Opportunity for expression of independent research and experimental work in special reading and public-address projects over and beyond or outside of usual thesis work.
- 601. Psychology of Public Address.** (2:2:0) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 101, 401, or 403. Gibb
Advanced study of the psychological elements connected with audience thinking and style of speaking and composition commensurate with persuasion.
- 621. Ancient Rhetoric and Oratory.** (3:3:0) F. (Su. odd years) Stephan
History and development of rhetorical principles in the classical world, with reference to the works of Socrates, Plato, Aristotle, Cicero, Quintilian, and others. Analysis of selected speeches from the periods.
- 622. British Public Address.** (3:3:0) S. (Su. even years) Bateman, Stephan
Historical and critical study of principal speakers and speeches and of their relationships to British political and social life.
- 623. American Public Address.** (3:3:0) F. (Su. even years) Bateman
Historical and critical study of significant speakers and speeches and of their relationship to American political, social, and intellectual life—from colonial times to the midtwentieth century.
- 624. Contemporary Public Address.** (3:3:0) S. (Su. odd years) Bateman, Gibb
Historical and critical study of significant speakers and speeches in post-World War II society. Special attention to contemporary modes of communication and trends in rhetorical analysis.
- 630. Methods and Problems of Research in Communication Disorders.** (2:2:0) F.S.Su. Low, Newman, Weaver
A practical study of methods of scientific inquiry as applied to the disorders of communication. It is imperative that students take this course early in their graduate program to prepare them for their thesis projects.
- 631. Seminar in the Generation and Perception of Acoustic Stimuli.** (2:2:0) S. Prerequisites: Speech and Dram. Arts 430, 431. Morley, Weaver
An advanced study made of the acoustics of speech sounds and their perception by the ear and mind of the listener. Current research in experimental phonetics reviewed.
- 632. Dynamics of Human Communication.** (2:2:0) F. (Su. even years)
A study of the dynamics of intra- and interpersonal communication. The human factors of personality, learning, motivation, cognition, etc., are considered from the perspective of human communication.
- 640. Stuttering.** (2:2:1) S. (Su. even years) Newman
Evaluation and treatment of stuttering are studied. Its development and current theories of etiology are also reviewed.

- 641. Advanced Diagnosis of Communication Disorders.** (2:2:1) F.S.Su. Pre-requisite: Speech and Dram. Arts 441. Low
Evaluation and appraisal of the human communication systems, including assessment of sensory inputs (their perceptual, conceptual, and higher functions), expressive components, and their feedback relations.
- 642. Voice Disorders.** (2:2:1) S. (Su. even years) Jones
Emphasis is placed upon the organic voice disorders. Etiological factors are identified. Diagnosis and treatment procedures are studied, and practical demonstrations are given.
- 643. Communication Disorders of the Cerebral Palsied.** (2:2:1) F. Prerequisite: Speech and Dram. Arts 431. Jones
Study of the incidence, etiology, appraisal, and procedures for speech and hearing therapy of the cerebral palsied.
- 644R. Special Problems in Communicative Disorders.** (1-3:1-3:0 ea.) F.S.Su. Prerequisite: consent of instructor.
Individual study in the clinical or applied areas.
- 646. Oro-Facial Communication Disorders.** (2:2:1) F. (Su. odd years) Prerequisites: Speech and Dram. Arts 430, 431. Morley
Study of communication disorders associated with anomalies of palate, teeth, tongue, maxilla, mandible.
- 647. Communication Disorders of the Mentally Retarded.** (2:2:1) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 431. Low
Advanced studies of the communication disorders of the mentally retarded. Principles and procedures of communication habilitation. Designed for speech and hearing and special education majors and other school specialists.
- 648. Aphasia.** (2:2:1) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 431. Low
Nature, etiology, diagnosis, and therapy associated with the speech of child and adult aphasics (brain damaged) will be studied; also linguistic, behavioral, and intellectual changes.
- 650. Clinical Audiology.** (2:2:2) F. (Su. odd years) Prerequisite: Speech and Dram. Arts 351. Weaver
The theoretical bases and development of skill in the techniques of administering new and advanced audiometric procedures in the assessment of impaired hearing.
- 651. Community and Industrial Audiology.** (2:2:1) S. Prerequisite: Speech and Dram. Arts 351. Weaver
Study of hearing problems in industry, legal implications, hearing, testing of adults, and adult hearing rehabilitation.
- 652. Pediatric Audiology.** (2:2:1) S. Prerequisite: Speech and Dram. Arts 351.
Intensive study of the problems encountered in the rationale behind, and the audiological instruments used in assessing the hearing of infants and young children.
- 653. Hearing Aids and Instrumentation.** (3:3:0) F. (S. even years) Prerequisite: Speech and Dram. Arts 351.
Designed to acquaint students in speech, hearing, and related fields with basic designs, operation, selection, and use of hearing aids of all types for individuals with impaired hearing.
- 656. History, Education, and Guidance of the Hearing Impaired.** (2:2:0) F. Prerequisites: Speech and Dram. Arts 130; Ed. 360.
- 657. Teaching Speech to the Hearing Impaired.** (2:2:2) S. Prerequisites: Speech and Dram. Arts 130, 231.

- 660. Theory of Interpretation.** (2:2:0) F. (Su. odd years) Prerequisites: Speech and Dram. Arts 121, 123, 325, or equivalent. Gledhill, Golightly
Study of the theories of Plato, Aristotle, Horace, Quintilian, Longinus, Bulwer, and Burgh relevant to the art of oral interpretation, and of the theories of Sheridan, Walker, and later writers who continued such analyses.
- 661. Oral Interpretation of Classical Literature.** (2:2:0) S. Prerequisites: Speech and Dram. Arts 121, 123, 325, or equivalent. Metten, Woodbury
Analysis of the classic forms of poetry, and of the interpretation theories and techniques appropriate to their artful performance.
- 663. Program Building and Lecture Recital.** (2:2:0) S. Prerequisites: Speech and Dram. Arts 121, 123, 325, or equivalent. Gledhill, Metten
Theory and practice in the structuring of literary excerpts into formal lecture recitals.
- 667. History of Acting.** (2:2:0) (S. even years) Prerequisite: Speech and Dram. Arts 423. Woodbury
The history of acting theories and their implementation from classical until modern times.
- 668. Special Studies in Theatre History.** (1-3:1-3:0) F.S.
Supervised research in selected historical problems.
- 670. Advanced Theory and Practice in Technical Theatre Production.** (2:2:0) S. Prerequisite: Speech and Dram. Arts 319, or 320, or 675, or consent of instructor. Henson, Pope
Analysis and application of design theory.
- 671. Experimental Theatre.** (2:2:0) F. Prerequisites: Speech and Dram. Arts 460, 461, or equivalent. Hansen
Theory and practice in directing nonconventional dramatic literature.
- 672. Problems of the Producing Director.** (2:2:0) F. Hansen
Supervised research in the social and economic problems of producing theatre art: budgeting, programming, consumer analysis, social responsibilities.
- 673. Advanced Play Production—Directing.** (2:2:0) S. (Su. even years) Prerequisite: Speech and Dram. Arts 460 or equivalent. Woodbury
An advanced study of theories and techniques.
- 674R. Projects in Theatre.** (1-4:1-4:0 ea.) F.S.Su.
Supervised applied theory in playwriting, directing, acting, and stagecraft.
- 675, 676. Stage Design.** (2:2:1 ea.) F.S. Prerequisite: Speech and Dram. Arts 319, or 320, or equivalent. Henson, Pope
Advanced theory and techniques of scenic design.
- 678. Stage Lighting.** (1-2:1-2:0) F.Su. Prerequisite: Speech and Dram. Arts 319, or 320, or consent of instructor.
Advanced theory and techniques of theatrical lighting.
- 680R. Internship Practicum in Speech Pathology.** (1-2:0:4 ea.) F.S.Su.
- 681R. Internship Practicum in Audiology.** (1-2:0:4 ea.) F.S.Su.
- 690. Methods and Problems of Research in Speech and Dramatic Arts.** (2:2:0) F. Su.
Required of all graduate students. It is imperative that graduate students take this course during their first semester.
- 691. Research in Oral Communication: The Historical-Critical Approach.** (2:2:0) S. Bateman
- 692. Research in Oral Communication: The Quantitative Approach.** (2:2:1) S. Gibb

693. **Seminar in Persuasion.** (1-3:1-3:0) F. (Su. even years) Stephan
In-depth analysis of persuasion theory—from the classical theorists to contemporary trends.
694. **Seminar in Public Address.** (1-3:1-3:0) S. (Su. odd years) Bateman
Analysis and evaluation of the research and publications in public address.
695. **Seminar in Readers Theatre.** (1-3:1-3:Arr.) S.Su. Gledhill
Theory and practice of editing, directing, and dramatizing, exclusively for reader's theatre.
696. **Seminar in Interpretation.** (1-3:1-3:0) F. (Su. even years) Gledhill, Metten
Supervised research and analysis of advanced interpretation techniques.
697. **Seminar in Arena Theatre.** (1-4:1-4:0) S. (Su. odd years) Hansen
Theory and practice of directing exclusively for the arena theatre.
699. **Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su.
731. **Dramatic Theory and Criticism I.** (3:3:0) F. (Su. odd years) Metten
The history and principles of dramatic theory and criticism from Plato to Lessing.
732. **Dramatic Theory and Criticism II.** (3:3:0) S. (Su. even years) Metten
The history and principles of dramatic theory and criticism from Lessing to Langer.
733. **Dramatic Theory and Criticism III.** (3:3:0) S. (Su. odd years) Hansen
A study and analysis of the major dramatic forms: tragedy, comedy, melodrama, farce.
740. **Seminar in the Theory and History of Theatrical Costuming.** (2:2:1) S.Su.
772. **Directing and Staging I.** (3:3:0) F. (Su. even years) Prerequisite: Speech and Dram. Arts 673. Woodbury
Theory and techniques of directing and staging historical and period plays: Greek, Roman, Medieval, Elizabethan, Restoration, and Continental plays before 1841.
773. **Directing and Staging II.** (2:2:0) S. (Su. odd years) Prerequisite: Speech and Dram. Arts 673. Woodbury
Theory and techniques of directing and staging plays from the modern and abstract repertoire: Expressionism, Constructivism, Epic, Romanticism, Absurd, Oriental, Cruelty, Happenings.
797. **Research.** (1-6:Arr.:Arr.) F.S.
799. **Dissertation for Ph.D. Degree.** (Arr.) F.S.

Statistics

Professors: Carter, Nielson, Richards.

Associate Professors: Burton, Faulkner, Hilton
(chairman, 348 JKB).

Assistant Professors: Beus, Christensen, Crandall, Hendrix, Rencher.



Statistics can be termed the application of the scientific method to decision making. Through the years statistics has changed from simple data collection, presentation, and analysis, to a field involving experimental design, mathematical probability, survey sampling, quality control, and a variety of other areas utilizing scientific methods to extend information from a small sample to an entire population from which the sample is drawn.

The curriculum in statistics is designed (1) to provide students with the necessary education background for careers as professional statisticians in industrial organizations, government agencies, universities, and research institutes, and (2) to provide an integrated series of courses which will serve the entire University in providing technical tools which can be applied in many subject-matter areas.

The bachelor's degree in statistics is offered in both the College of Physical and Engineering Sciences and the College of Business. The Master of Science degree in statistics is also offered along with both an undergraduate and a graduate minor.

Requirements for a Major in Statistics in the College of Physical and Engineering Sciences

A. Departmental Requirements:

1. Stat. 221 or 332, 336, 337, 421, 422, and five additional classes from Stat. 241, 432, 433, 434, 511, 522, 531, 534, 536, 541. Of these five, at least two must be selected from Stat. 522, 531, 534, 536, 541.
2. Alternative set of courses: Stat. 501, 502, 421, 422, and four additional classes from Stat. 432, 433, 434, 522, 534, 536, 541.
3. (a) Mathematics through 214 for those not planning graduate work in statistics.
(b) Mathematics through 244 for those choosing a mathematics minor, or those planning graduate work in statistics.

B. Other Requirements:

1. Twelve additional hours in mathematics or in an area of application having prior approval of the department.
2. It is recommended that those contemplating graduate work in statistics take Math. 541 and 542.

Requirements for a Major in Statistics in the College of Business

A. Departmental Requirements:

1. Stat. 221 or 332, 330, 421, and six additional classes from Stat. 241, 337, 422, 432, 433, 434, 511, 522, 531, 534, 536, 541. Of these at least one must be from Stat. 522, 531, 534, 536, 541.
2. Math. 111, 112, 113, 214, or equivalent.
3. A minor in another department of the University.

B. Other Requirements:

1. The core requirements of the College of Business. (See College of Business section.)
2. It is recommended that those contemplating graduate work in statistics take Stat. 422, and Math. 541, 542.

Requirements for a Minor in Statistics

A total of 14 hours which includes 221 and 336 or their equivalent and three other courses numbered 337 or above.

Requirements for a Master of Science Degree**A. Statistics Department:**

A student will be expected to complete a total of 24 hours, exclusive of thesis of which a minimum of 15 hours, exclusive of thesis, must be in the Department of Statistics. The student must include 621 and 636 in his program. Students with no previous training in statistics must complete Stat. 501, but it will not count toward the 24 hours required.

B. Other Departments:

1. The student must complete Math. 541 if not taken as an undergraduate.
2. The student must complete a minor or a supporting field option.

Courses

- 221. Principles of Statistics.** (3:3:1) F.S.Su. (G-PS) Prerequisites: Math. 111, 105 or 108 or equivalent.
Frequency distributions; measures of central tendency and dispersion; elementary probability; regression and correlation; sampling; elementary statistical inference including the normal, student's "t," chi-square, and analysis of variance tests.
- 241. Elementary Probability.** (2:2:0) F.S.Su. Prerequisite: Math. 111, 105 or 108. Recommended: Stat. 221, 322 or 332.
Combinations; permutations, binomial, Poisson, multinomial, and hypergeometric distributions; combinatorial probability.
- 322. Elements of Mathematical Statistics.** (2:2:0) F.S.Su. Prerequisite: Math. 214.
Faulkner, Nielson, Richards
Introduction to probability; frequency distributions and estimation from a theoretical standpoint.
- 330. Statistical Methods Used in Business.** (3:3:0) S. Prerequisite: Stat. 221 or 332 or equivalent.
Carter, Nielson
Advanced time series analysis; growth curves; multiple correlation; forecasting; sample survey methods; introduction to operations analysis; introduction to sampling inspection and quality control.
- 332. Statistical Methods Used in Engineering.** (2:2:0) F.S.Su. Prerequisite: Math. 214 or equivalent.
Faulkner, Rencher, Richards
Frequency distributions; measures of central tendency and dispersion; elementary probability; regression and correlation; sampling; elementary statistical inference including the normal, student's "t," chi-square, and analysis of variance tests. Same material as Stat. 221; uses calculus but stresses methods rather than theory.
- 336. Statistical Methods Used in the Sciences I.** (3:3:0) F. Prerequisite: Stat. 221 or 332 or equivalent.
Carter, Hilton
Estimation and tests of hypothesis; analysis of variance, including multiple range tests and orthogonal comparisons; introduction to experimental design; multiple and partial regression.
- 337. Statistical Methods Used in the Sciences II.** (3:3:0) S. Prerequisite: Stat. 330 or 336.
Carter, Hilton
Analysis of covariance and multiple covariance; multiple range tests

and orthogonal comparisons in covariance analysis; sampling; nonparametric methods including contingency, sign, runs, and rank tests; rank correlation and partial rank correlation.

- 421, 422. **Theory of Statistics I, II.** (3:3:0 ea.) F.S. Prerequisite: Math. 214 or equivalent. Recommended: a previous course in statistics and concurrent registration in Math. 243 and 244 respectively.

Faulkner, Nielson, Richards

Development of distribution theory from the theory of probability; common discrete and continuous distribution functions including derived sampling distributions; tests of hypotheses and estimation using the principles of maximum likelihood.

432. **Quality Control and Industrial Statistics.** (3:3:0) F. Prerequisite: Stat. 221 or 332. Recommended: Stat. 330 or 336.

Rencher, Richards

Quality control, sampling inspection and sequential analysis, industrial experimentation.

433. **Operations Research I.** (3:3:0) F. Prerequisites: Math. 109 or 112; Stat. 221.

Christensen, Richards

Mathematical decision-making processes including linear programming game theory, sequencing and scheduling procedures, and dynamic programming.

434. **Operations Research II.** (3:3:0) S. Prerequisites: Math. 109 or 112; Stat. 221.

Christensen, Richards

Mathematical decision-making processes, including inventory and replacement models, queuing theory, statistical decision-making theory, and simulation models.

501. **Statistics for Research Workers I.** (5:4:3) F.S.Su. Prerequisite: Math. 105 or equivalent.

Beus, Carter, Hilton

Probability, estimation, confidence intervals, tests of hypotheses, regression, analysis of variance and nonparametric methods. Designed for graduate students majoring in the natural or social sciences.

502. **Statistics for Research Workers II.** (5:4:3) S. Prerequisite: Stat. 501 or equivalent.

Beus, Carter, Hilton

Analysis of covariance; multiple regression; linear models; experimental design and sampling. Designed for graduate students majoring in the natural or social sciences.

511. **Applications of Computers to Statistical Problems.** (3:3:3) F. Prerequisite: Stat. 336 or 501.

Beus, Carter, Crandall

Application of computers to analysis of variance and covariance, multiple regression, factorial experiments, Monte Carlo simulation, unequal cell frequencies. For natural or social science students.

522. **Theory of Linear Models.** (3:3:0) S. Prerequisites: Stat. 421, and at least concurrent registration in 422.

Faulkner, Nielson, Richards

A study of linear hypotheses with application to regression and experimental design.

531. **Experimental Design.** (3:3:0) F. Prerequisite: Stat. 330 or 336 or 501.

Carter, Hilton

Randomized blocks, Latin squares, factorial designs, fractional replication, confounding, and incomplete blocks.

534. **Sampling.** (3:3:0) S. Prerequisite: Stat. 336 or equivalent.

Christensen, Nielson

Systematic, simple random, stratified and cluster sampling, optimum allocation, ratio estimation, etc. Applications to various fields.

536. **Regression Analysis.** (3:3:0) S. Prerequisite: Stat. 336 or 501.

Carter, Rencher

Applications of multiple regression, introduction to model building, examination of residuals, stepwise regression procedures, introduction to nonlinear estimation.

- 541. Advanced Probability.** (3:3:0) S. Prerequisite: Math. 214. Recommended: completion of or concurrent registration in Stat. 421. Burton, Faulkner, Nielson

Recurrent events, runs and sequences, advanced combinatorial methods, random walk, queuing and Monte Carlo methods, introduction to Markov chains and sequential processes.

- 552. Statistical Methods in Education I.** (3:3:0) F.S.Su. Prerequisite: consent of instructor. Hendrix

Measures of central tendency, variability and linear correlation. Introduction to probability and statistical inference using normal, "t," and chi-square distributions. Computer usage stressed. For majors in education and related fields.

- 554. Statistical Methods in Education II.** (3:3:0) F.S.Su. Prerequisite: Stat. 552. Hendrix

Educational application with the computer of analysis of variance and covariance, multiple and partial regression and correlation, nonparametric methods. Introduction to experimental design.

- 591R. Graduate Seminar in Statistics.** ($\frac{1}{2}$:1:0 ea.) F.S.

- 621, 622. Advanced Theory of Statistics I, II.** (3:3:0 ea.) F.S. Prerequisites: Math. 542; Stat. 422. Recommended: Stat. 522. Faulkner

Advanced topics in the theory of estimation, testing hypothesis, multiple regression, multivariate analysis.

- 623. Analysis of Variance.** (3:3:0) F. Prerequisite: Stat. 422, 522, or equivalent. Nielson

Theory of analysis of variance for fixed effects, random effects and mixed models including two-three and higher-way layout, Latin squares, incomplete blocks, and nested designs.

- 631. Advanced Experimental Design.** (3:3:0) S. Prerequisites: Stat. 422, 531. Recommended: Stat. 522. Carter, Nielson

Advanced topics in experimental design, including the general p-level factorial, Youden squares, balanced incomplete blocks, response surfaces, lattice design.

- 632. Advanced Industrial Statistics and Reliability.** (3:3:0) S. Prerequisite: Stat. 422, 432, or equivalent. Richards

Advanced topics in sequential sampling, tolerance limits, life testing, and reliability.

- 636. Advanced Statistical Methods.** (3:3:0) F. Prerequisites: Stat. 422, 336 or 501. Carter, Richards

Advanced topics in estimation, confidence intervals, tests of hypotheses including distribution-free methods, truncated distributions, order statistics.

- 641. Advanced Topics in Probability I.** (3:3:0) F. Prerequisites: Math. 542; Stat. 422, 541. Burton

Advanced topics in Markov chains, stochastic processes, and information theory.

- 642. Advanced Topics in Probability II.** (3:3:0) S. Prerequisites: Math. 542; Stat. 541, 621. Recommended: Stat. 641; Math. 641. Burton

A measure theoretic approach to probability including Borel sets, characteristic functions, measure spaces, measurable functions.

- 690R. Special Topics in Statistics.** (3:3:0 ea.) F.S.Su. Prerequisite: consent of instructor.

Specialized topics in statistics varied from time to time.

- 695. Reading in Statistics.** (1-2:1-2:0) F.S.Su. Prerequisite: consent of department.

- 699. Thesis for Master's Degree.** (6-9:Arr.:Arr.) F.S.Su. Prerequisite: consent of department.

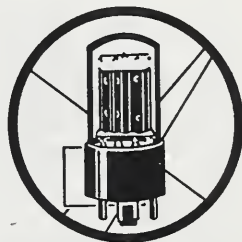
Technical Institute

Professors: Jeppsen (director, 120 Social Hall), McArthur.

Associate Professors: Allen, Dean, Polson.

Assistant Professors: Barrus, Brown, Bruton, Fletcher, Herde, Holt, Jenkins, McKinnon, Smart, Tolman, Whited, J. Wright, N. Wright.

Instructors: Bloxham, Chaffin, Cottam, Hansen, Howard, Johansson, Julio, Loftus, Long, Matern, Pratt, Raisor, Richardson, Talmage.



Note: Instructors in the Technical Institute are drawn from a number of other departments of the University.

The Technical Institute, a major division of the College of Industrial and Technical Education, offers, in cooperation with other departments on the University campus, associate-degree programs of higher education for young men and women to prepare them for employment in technical and preprofessional areas of business, industry, and government. These programs are particularly planned for those students desiring to spend only two years at the University; however, graduates of these programs may continue to work toward the baccalaureate degree.

The Technical Institute provides carefully-balanced programs of approximately fifty percent general education courses and fifty percent specialized courses in the major area. These programs are designed to develop successful and productive citizens with a constructive philosophy of life.

Currently offered are the following associate-degree programs:

Associate degree in family living

Associate degree in law enforcement

Associate degree in nursing (R.N.)

Business for general business and secretarial technicians

Data Processing for business and industrial technicians

Engineering for chemical, civil, electrical, and electronics technicians

Industrial for drafting, graphic arts, building construction, tool design, and welding technicians

Library for assistant librarians and library technicians

Photography for photographic and communication technicians

Piano for piano technicians in business and industry

Entrance Requirements

Requirements for admission to the Technical Institute of the College of Industrial and Technical Education are the same as those for admission to the University listed in the Student Academic Services section of this catalog. Students enrolling in engineering technology might find it necessary in order to complete the required curriculum without loss of time to have successfully completed three years of high school English and two years of mathematics including algebra and geometry; also, it would be helpful to have completed one year of physical science, preferably physics. Students having deficiencies in these requirements should consult their program advisers for remedial courses.

Graduation

Upon completion of a two-year curriculum, the Associate of Science degree will be awarded at the regular University graduation exercises. Requirements for this degree include a minimum of 64 semester hours of credit, with a composite major of 30 credits or more and the following credits in general education: English, 6; American history, 3; health, 2; physical education, 1; religion, 2 per each semester in residence; and one course in each of the general group requirements. Of the total of 64 credits at least 20 must be in residence; a total of 12 credits may be taken by correspondence. However, fifteen semester hours of work completed on the University Provo campus and five semester hours at a BYU residence center for continuing education as a matriculated student, will satisfy the residence requirement for the two-year program in the Technical Institute. A maximum of 10 "D" credits can be accepted, but a cumulative grade-point average of 2.0 or above is required. Students completing one of these programs may, if they desire, continue their work toward a baccalaureate degree.

ASSOCIATE-DEGREE PROGRAM IN FAMILY LIVING

Supervisor: Beulah Swensen

The two-year program leading to an associate degree in family living is designed for students desiring to become more proficient in homemaking and family relationships and at the same time develop abilities and skills that can be put to use occupationally.

Occupational options include child development and family relationships study—leading to nursery school work; clothing and textiles study—leading to work in the merchandising and clothing industries; environmental design, family economics and home management study—leading to work in housing and homemaking services; food science and nutrition study—leading to work in food industries; and interdepartmental study—leading to such appointments as airline stewardess.

Departmental courses may be chosen from one or more departments in the College of Family Living, provided the specified prerequisites are met for a particular course. Upon completion of this program a student may find it desirable to transfer to a four-year program leading to the baccalaureate degree in family living.

General Education Requirements

Hours

Engl. 111, 112	6
Hist. 170	3
Health 130	2
P.E.	1
Relig. (including 121, 122)	8
Hum.	3
Biol. sci.	3
Phys. sci.	3
Soc. sci.	3
Total Semester Hours	32

Departmental Requirements

Courses may be selected from one or more of the following departments:	
Child Development and Family Relationships	
Clothing and Textiles	
Environmental Design	
Food Science and Nutrition	
Family Economics and Home Management	
Total Semester Hours	32

ASSOCIATE-DEGREE PROGRAM IN LAW ENFORCEMENT

Supervisor: Charles T. Fletcher

This associate-degree program prepares students for law enforcement positions with federal, state, local, industrial-institutional agencies, and security sections. The program is designed to produce law enforcement personnel who possess an understanding of the forces at work in society, skill in human relations, and the ability to adapt to the rapid changes of modern living. In addition to the associate level, a degree is also offered in law enforcement at the bachelor's level. Those qualifying for an associate degree may either enter the law enforcement field or continue their education toward the higher degree.

First Year			Second Year		
	F	S		F	S
Law Enf. 101, 102	3	3	Law Enf. 301, 302	3	3
Pol. Sci. 110, 311	3	3	Health 121; Speech and Dram. Arts 102 ..	2	2
Sociol. 112	3		Psych. 111	3	
Chem. 100 or Micro. 121		3	Geog. 211, or Physics 177, or Math. 121		2-3
Engl. 111, 112	3	3	Econ. 101, or Sociol. 111, or Psych. 350	3	
Health 130	2		Physics 100		3
Hist. 170		3	Hum., biol. sci.	3	3
Relig. 121, 122	2	2	Relig.	2	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	P.E.	$\frac{1}{2}$	$\frac{1}{2}$
Total Hours	16 $\frac{1}{2}$	17 $\frac{1}{2}$	Total Hours	16 $\frac{1}{2}$	15 $\frac{1}{2}$ -16 $\frac{1}{2}$

ASSOCIATE-DEGREE PROGRAM IN NURSING

Director (LDS Health Service Center, 401 12th Avenue,
Salt Lake City, Utah 84103)

Adviser: Beulah Swensen

The two-year curriculum is based upon a philosophy of education for service in the field of technical nursing. This program prepares graduates to take the State Board Test Pool Examination for licensure in Utah as registered nurses (R.N.) and to give direct bedside care to patients.

Five semesters are required to complete this program. The first semester includes prerequisite general education courses which are required before beginning the nursing courses in Salt Lake City in the Fall Semester. These courses may be taken at BYU in Provo, the BYU-Salt Lake Center for Continuing Education, or any other accredited institution of higher learning.

The continuing semesters include nursing instruction and clinical experience in medical-surgical, pediatric, psychiatric, and maternity nursing and are taught in Salt Lake City at the LDS Health Service Center, LDS Hospital, Primary Children's Hospital, and Cottonwood Hospital.

First Year			Second Year		
	Su	F	S	F	S
Engl. 111	3			Nurs. 225	10
Chem. 100	3			CDFR 210	3
Micro. 121	3			Sociol. 111	3
Relig. 121	2			Nurs. 226	5
P.E.	$\frac{1}{2}$			Nurs. 227	5
Nurs. 223		7		Hist. 170	3
Zool. 261		4		P.E.	$\frac{1}{2}$
FSN 115		2		Relig. 212	2
Relig. 122		2			
Nurs. 224			7		16
Psych. 111			3		15 $\frac{1}{2}$
Engl. 112			3		
Relig.			2		
	11 $\frac{1}{2}$	15	15		

Courses

223. Fundamentals of Nursing. (7:3:16) F. Prerequisites: Chem. 100; Engl. 111; Micro. 121.

Emphasis on skills, scientific principles, and maintenance of normal physiology. Nursing-care problems are identified, and physical, emotional, social, intellectual, and spiritual needs are discussed.

224. Physical and Mental Health. (7:4:12) S. Prerequisites: Nurs. 223; Zool. 261; FSN 115.

Furthering nursing skills and understandings identified in basic nursing-

care problems. Implementation of physical, biological, and behavioral science concepts related to all age groups.

225. Parent and Child Health. (10:5:20) F.S. Prerequisites: Nurs. 223, 224.

Role of the nurse in parent and child care related to child-bearing family. Knowledge and understanding of basic needs in family health and illness.

226. Nursing in Long-Term Illness. (5:6:20) F.S. Prerequisites: Nurs. 223, 224.

Recognition of nursing-care problems of chronically ill and participation in rehabilitation of long-term patients. Opportunity to function as members of nursing team.

227. Mental Health Nursing. (5:6:20) F.S. Prerequisites: Nurs. 223, 224.

Designed to promote recognition of nursing-care problems of the emotionally ill and to develop skill in observation, understanding, modification, and reporting of behavior.

BUSINESS TECHNOLOGY

Supervisor: J. Perry Polson

Office and secretarial workers and persons with general business training are in great demand in the employment market. Virtually every type of industry employs clerical workers, since office work is such an integral part of every business. In addition to this widespread utilization of office workers, there is a high turnover rate which further accentuates the need for new employees. Despite the use of more and more labor-saving equipment and increased efficiency in office procedure, there will be a continued demand in the future for people with this type of training.

BUSINESS TECHNICIAN

Adviser: Karl Herde, Jr.

Competent individuals with general business experience are in demand in business, industry, and government. The complexity of modern business and government has increased the need for personnel with a more general type of training. The following two-year associate-degree program prepares students for positions in various business organizations.

First Year			Second Year		
	F	S		F	S
Econ. 111, 112	3	3	Bus. Ed. 305, 320	3	3
Bus. Ed. 101; biol. sci. ..	2	3	Hist. 170;		
Bus. Ed. 206; hum.	2	3	Bus. Mgt. 241	3	3
Math. 108; Health 130 ..	4	2	Phys. sci.; Acctg. 342		
Engl. 111, 112	3	3	or Bus. Mgt. 256	3	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Acctg. 201, 202	3	3
Relig. 121, 122	2	2	Comput. Sci. 201		2
			Elective	2	
Total Hours	16 $\frac{1}{2}$	16 $\frac{1}{2}$	Relig.	2	2
			Total Hours	16	16

SECRETARIAL TECHNICIAN

Supervisor: J. Perry Polson

Secretarial technician training is specific preparation toward a business career. Graduates of this program are employed as private secretaries, executive secretaries, receptionists, and stenographers. They are highly skilled in shorthand, typing, office-record management, office-machines operation, and stenographic procedures, and have a good background in general education. Students who have achieved the highest success in this program are high school graduates with a good background in English, social sciences, and general education.

The following associate-degree program is designed to prepare students in two years for efficient, profitable service in this field.

First Year			Second Year		
	F	S		F	S
Bus. Ed. 112*, 113	3	3	Bus. Ed. 220		3
Bus. Ed. 203*, 204	2	2	Bus. Ed. 311, 275	3	4
Bus. Ed. 206	2		Bus. Ed. 305		3
Bus. Ed. 485 or			Acctg. 201	3	
Bus. Mgt. 380	1		Bus. Mgt. 200	2	
Engl. 111, 112	3	3	Econ. 101 or 111		3
Health 130		2	Hist. 170	3	
Hum., phys. sci.	3	3	Biol. sci.	3	
Relig. 121, 122	2	2	Electives		1
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	2
Total Hours	16 $\frac{1}{2}$	15 $\frac{1}{2}$	Total Hours	16	16

*Assumes beginning typewriting and beginning shorthand have been taken in high school. If not already completed, these beginning classes must be added to the student's schedule as remedial courses which will add one Summer Session to the time required for graduation.

DATA PROCESSING TECHNICIAN

Supervisor: C. Edwin Dean

The use of digital computers is becoming more and more widespread in all types of business and accounting procedures, in mathematical analysis, and in control of many industrial and commercial processes.

Because of this widespread use of digital computers and a growing need for trained technicians in this field, students should be trained in the fundamentals of the operation of digital computers, the procedures for programming these machines, and application of these machines to all types of usage. The programming technician should be an important member of the computer team in developing, operating, and increasing the use of automation in industry and should find himself in a favorable position for desirable employment.

The following associate-degree program is designed to prepare students for successful entrance into occupations of this type.

First Year			Second Year		
	F	S		F	S
Comput. Sci. 101, 201	2	2	Comput. Sci. 332, 333	3	3
Engl. 111, 112	3	3	Stat. 221, 330	3	3
Hist. 170; Health 130 ..	3	2	Math. 210; Speech and		
Math. 111, 112	5	4	Dram. Arts 102	3	2
Comput. Sci. 230		3	Acctg. 201, 202	3	3
Relig. 121, 122	2	2	Biol. sci.; Comput.		
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Sci. 351	3	3
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.; Econ. 101	2	3
Total Hours	16	17	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
			Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

ENGINEERING TECHNICIAN

Supervisor: Merrill J. Smart

Engineering technicians are a part of the American industry engineering team. This team involves engineers and scientists who formulate ideas and create new products and services; engineering technicians who are responsible for a large number of operational functions such as assembling, operating, testing, and the reporting of data on new products and services; and directing skilled workers who perform the routine services.

Since the engineering technician works between the engineer and the skilled worker, he must be familiar with both the hand and machine processes of the skilled worker and the basic scientific principles that are the tools of the engineer.

Students are prepared for placement in technical positions by receiving a basic background in the principles of physics and mathematics, communication of ideas, and general education. This is combined with depth of understanding and skill in the technical area which the students choose. These areas include chemical, civil, electrical, and electronics. The electronics engineering technology is accredited by the Engineers' Council for Professional Development.

CHEMICAL TECHNICIAN

Adviser: Merrill J. Smart

Chemical technicians are employed in research, in developing new products—pharmaceuticals, insecticides, fabrics, plastics, metals, alloys, ceramics, fuels—and in finding new uses for present-day products. The chemical technician must be able to perform routine tests; use mathematical and chemical formulas; assemble and work with intricate laboratory equipment; make accurate measurements and computations; and may supervise the work of others engaged in these tasks. The associate-degree program outlined below prepares men and women for the many job opportunities offered by the chemical industry.

First Year			Second Year		
	F	S		F	S
Chem. 105, 106	4	4	Chem. 223	5	
Math. 121, 122	3	3	Ch.E. 100	1	
Engl. 111, 112	3	3	Math 223; comput. sci.	3	3
Engr. Tech. 100;			Indus. Tech. 335;		
Physics 105, 107	1	4	Physics 106, 108	4	4
Hist. 170; Health 130 ..	3	2	Drafting 111;		
Relig. 121, 122	2	2	Comput. Sci. 230	3	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Hum.; biol. sci.		5
			Relig.	2	2
Total Hours	16 $\frac{1}{2}$	18 $\frac{1}{2}$	Total Hours	18	17

CIVIL TECHNICIAN

Adviser: Kay F. Brown

Civil technicians must know how to prepare detailed plans and blueprints; estimate costs and materials needed; use the transit, level, and other surveying instruments; prepare maps and specifications; supervise construction work; and inspect jobs for conformance to specifications. They become members of the engineering team to aid the civil engineer in designing, constructing, and maintaining civil engineering projects. The following associate-degree program consists of basic courses arranged so that the students receive a maximum of practical instruction early in their major field of study.

First Year			Second Year		
	F	S		F	S
Engr. Tech. 100	1		Engr. Tech. 205, 206	3	3
Math. 121, 122	3	3	Hum.; Engr. Tech. 211 ..	2	3
Engl. 111, 112	3	3	Engr. Tech. 212		2
Hist. 170		3	Engr. Tech. 213		2
Drafting 111	3		Indus. Tech. 316, 214	4	2
Physics 105, 106	3	3	C.E. 211, 212	3	3
Health 130		2	Math. 223	3	
Relig. 121, 122	2	2	Comput. Sci. 230		3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Physics 107, 108	1	1			
Total Hours	17	18	Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$

ELECTRICAL TECHNICIAN

Adviser: Kay F. Brown

Electrical technicians are prepared to assist electrical engineers with the more detailed work of their profession. They work as electrical power technicians in power plant operation, power transmission, and distribution; manufacturing of electrical machinery; design and construction of commercial and industrial power systems; and electrical inspecting, estimating, and drafting. They find employment with electrical power generating and distributing companies, telephone companies, government installations, defense plants, and business and industrial concerns. The following associate-degree program provides students with a maximum of practical training to effectively fill the position of electrical technician.

First Year			Second Year		
	F	S		F	S
Engr. Tech. 100;			Engr. Tech. 221, 222	3	3
Hist. 170	1	3	Engr. Tech. 223, 224	3	3
Engr. Tech. 102	5		Engr. Tech. 225, 226	2	2
Math. 121, 122	3	3	Engr. Tech. 241, 242	3	3
Engl. 111, 112	3	3	Math. 223;		
Engr. Tech. 228;			Physics 106	3	3
Physics 105	3	3	Hum.	2	
Health 130		2	Relig.	2	2
Relig. 121, 122	2	2	Physics 108		1
P.E.	$\frac{1}{2}$	$\frac{1}{2}$			
Physics 107		1	Total Hours	18	17
Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$			

ELECTRONICS ENGINEERING TECHNICIAN

(Accredited by the Engineers' Council for Professional Development)

Adviser: Merrill J. Smart

Electronics engineering technicians are prepared to assist engineers with practical and detailed work in communications, computers, instrumentation, medical equipment, and industrial process controls. This associate-degree program includes the study of electronic theory and circuits, involving electron tubes, transistors, and servo-mechanisms. It is designed to give basic technical training necessary to place the student in the role of a successful electronics engineering technician.

Upon the completion of this program, students might find it profitable to transfer to a four-year baccalaureate-degree program in electronics technology (see Electronics Technology in the Industrial Technology section of this catalog) or in technical teacher education (see Industrial Education section of this catalog).

First Year			Second Year		
	F	S		F	S
Engr. Tech. 100	1		Engr. Tech. electives*	3	3
Engr. Tech. 102, 231	5	4	Engr. Tech. 232, 235	4	4
Physics 105		3	Math. 223;		
Health 130	2		comput. sci.	3	3
Math. 121, 122	3	3	Engr. Tech. 237, 234	2	2
Relig. 121, 122	2	2	Engr. Tech. 228	3	
Engl. 111, 112	3	3	Hist. 170		3
Dev. Assy. 101, 102	$\frac{1}{2}$	$\frac{1}{2}$	Relig.	2	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Dev. Assy. 201, 202	$\frac{1}{2}$	$\frac{1}{2}$
Physics 107		1	Hum.		2
Total Hours	17	17	Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$

*This six-hour sequence can be one of the following: (a) electrical machines; Engr. Tech. 221, 222; (b) radio-TV: Engr. Tech. 261, 262; and Commun. 255 (in

place of Engr. Tech. 237; (c) audio: Engr. Tech. 271, 272; and Physics 167 (in place of Engr. Tech. 228).

ENGINEERING TECHNOLOGY

Courses

100. **Orientation in Technology.** (1:1:0) F.S.
Introduction to the fields of industrial and engineering technology. Required of freshman students in technology.
102. **DC and AC Circuits.** (5:4:3) F.S. Prerequisite: completion of or concurrent registration in Math. 121.
Fundamentals of basic electrical components and network theorems in direct and alternating current circuits.
- 205, 206. **Engineering Materials.** (3:2:3 ea.) F.S. Prerequisite: Math. 122.
A survey of the materials used in engineering structures and machines. The physical properties of concrete, aggregates, wood, and steel for classification and field control.
211. **Structural Technology.** (3:2:3) S. Prerequisites: Math. 223; Engr. Tech. 216.
Introduction to the principles of analysis and design of timber, steel, and masonry structures.
212. **Water Resources Technology.** (2:1:3) S. Prerequisites: Math. 122; Engr. Tech. 216; Physics 106.
Introduction to basic considerations related to water resources for both domestic and irrigation use. Measurement of flow and other elementary hydraulic principles. Laboratory tests used in water and sewage treatment.
213. **Soil Testing Technology.** (2:1:3) S. Prerequisites: Math. 122; Physics 106.
Introduction to the techniques of soil testing, including identification, classification, permeability, consolidation, and shear.
214. **Highway Technology and Materials.** (2:1:3) S. Prerequisites: Math. 122; Physics 106.
Highway transportation fundamentals. Construction and maintenance of highways and streets. Laboratory work in testing procedures.
221. **Electrical Machines.** (3:2:3) F. (m) Prerequisites: Math. 122; Physics 105; Engr. Tech. 102.
Fundamentals of direct and alternating current machinery, including motors, generators, transformers, their control and operation.
222. **Electrical Control Systems.** (3:2:3) S. (m) Prerequisite: Engr. Tech. 221.
A continuation of the study of electrical machines, with emphasis on industrial electronic control systems.
- 223, 224. **Electrical Power.** (3:2:3 ea.) F.S. (m) Prerequisites: Math. 122; Physics 105; Engr. Tech. 102.
Generation, transmission, and distribution of electric power; electrical and mechanical analysis of power systems; lighting and fuse protection.
- 225, 226. **Practical Wiring and Illumination.** (2:2:0 ea.) F.S. Prerequisites: Math. 122; Physics 106; Engr. Tech. 102.
Basic principles of illumination and power systems, including design for commercial buildings, roadways, and manufacturing plants.
228. **Electrical Drawing.** (3:2:3) F. Prerequisites: Math. 223; Physics 105; Engr. Tech. 102, 231.
Drafting techniques and drawing types used in the design, construction, installation, and maintenance of electronic equipment: military standards, schematics, chassis layout, and printed circuits.
231. **Electronics I.** (4:3:3) S. Prerequisite: Engr. Tech. 102.
Study of transistor and vacuum tube principles, including semiconductor theory, device characteristics and parameters, basic circuit configurations, and component biasing.

- 232. Electronics II.** (4:3:3) F. Prerequisite: Engr. Tech. 231.
Application of active devices including integrated circuits, oscillators, power supplies, pulse and switching circuits, amplifiers, etc.
- 234. Electrical Trouble Shooting.** (2:1:3) S. Prerequisites: Math. 122; Physics 105; Engr. Tech. 102.
Maintenance and service of electronic equipment, trouble-shooting techniques, and the use of electrical measuring and testing devices.
- 235. Electronics III.** (4:3:3) S. Prerequisite: Engr. Tech. 232.
Advanced electronics covering electromagnetic wave propagation, antennas, information transmission, modulation, radar, and microwave applications.
- 237. Electronic Instrumentation.** (2:2:0) F. Prerequisites: Math. 223; Physics 105; Engr. Tech. 102, 231.
The design and application of basic instrumentation to automated manufacturing and control processes.
- 241. Elementary Heat Power.** (3:2:3) F. Prerequisites: Math. 122; Physics 106.
Basic laws of thermodynamics; systems; gases, liquids, and vapors; pressure-volume and temperature-entropy planes; fuels, combustion, and heat transfer.
- 242. Power Plants.** (3:2:3) S. Prerequisites: Math. 122; Physics 106.
Classification, performance, capacity, details of boilers, auxiliaries, and accessories; applications of steam power; work, energy, efficiencies of engines and turbines; and hydroelectric power.
- 261. AM-FM Broadcasting Systems.** (3:2:3) F. (m) Prerequisite: completion of or concurrent registration in Engr. Tech. 231.
Circuit fundamentals of audio and RF systems used in studio and transmitter design in AM and FM stations and preparation for First Class Radio-Telephone FCC license examination.
- 262. Television Circuits and Practices.** (3:2:3) S. (m) Prerequisite: completion of or concurrent registration in Engr. Tech. 261.
Fundamentals of television circuits, including studio generating and control equipment, television cameras, film chains, and video tape recorders.
- 271, 272. Audio Systems.** (3:2:3 ea.) F.S. Prerequisite: Physics 167.
Techniques for testing audio components and systems and their use in radio, television, public address, and recording.

GENEALOGICAL RESEARCH TECHNICIAN

Supervisor: Norman Edgar Wright

Recent years have shown an important change of attitude toward genealogy as an accepted field of study on a university level. Not only is it a valuable study of man and the family unit, but the broader implications include its benefit to the sociologist, the historian, and the individual who desires a liberal education.

In keeping with the emphasis on genealogy, Latter-day Saints should be well informed concerning research and its relationships to salvation for the dead. The University has taken the lead in providing a sound program for the professional researcher, the Church member, and the general public who desire self-improvement. Competent researchers and teachers are in demand, not only in the Church but also in libraries, archives, societies, family associations, and the Brigham Young University Genealogical Research Center.

An associate degree in genealogy can be earned by following the outlined two-year plan. For a description of the courses offered, as well as information on the baccalaureate degree which can be obtained, see the section entitled Genealogy. This program will prepare the student to accredit in New England or Middle Atlantic states research, with emphasis on their English background. Other possible options could include classes in preparation for accreditation in the South, Midwestern states, English, Scottish, or Scandinavian research.

First Year			Second Year		
	F	S		F	S
Relig. 121, 122	2	2	Relig.	2	2
Engl. 111, 112	3	3	Biol. sci.; phys. sci.	3	3
Hist. 170; hum.	3	3	Hist.; soc. sci.	3	3
Geneal. 265, 366	3	3	Geneal. 300, 368	3	3
Geneal. 270, 371	3	3	Geneal. 495R; LIS	3	3
Health 130	2		Electives	3	2
P.E.	$\frac{1}{2}$	$\frac{1}{2}$			
Dev. assy	$\frac{1}{2}$	$\frac{1}{2}$			
			Total Hours	17	16
Total Hours	17	15			

INDUSTRIAL TECHNICIANS

Supervisor: Ross "J" McArthur

Our present industrial and technological economy requires industrial technicians as well as engineering technicians. Industrial technicians serve the industrial occupations in a manner similar to the way engineering technicians serve the engineering occupations.

Industrial technicians assist with technical details in industrial occupations. They use tools, instruments, and/or special devices to design, illustrate, fabricate, maintain, operate, and test objects, materials, or equipment; examine and evaluate plans, designs, and data; interpret work procedures; and maintain harmonious relationships among groups of workers.

To meet the need for trained industrial technicians for industry, the following curricula are provided.

DRAFTING TECHNICIAN

Adviser: Wilford J. Tolman

This associate-degree program prepares students for positions as architectural or mechanical drafting technicians. Drafting technicians are generally in demand in all areas of scientific research and engineering development. Employment opportunities are available in industry, architects' offices, and governmental agencies.

First Year			Environ. Des. 233			3
	F	S	C.E. 211		3	
Drafting 111, 355	3	3	Physics 105; Econ. 101 ..	3	3	
Math. 121, 122	3	3	Relig.	2	2	
Engl. 111, 112	3	3	Physics 107	1		
Health 130; Hist. 170	2	3				
Relig. 121, 122	2	2	Total Hours	17	16	
Hum.; biol. sci.	3	3				
P.E.	$\frac{1}{2}$	$\frac{1}{2}$				
Engr. Tech. 100	1					
Total Hours	17 $\frac{1}{2}$	17 $\frac{1}{2}$				
Second Year			Second Year			
(Architectural Drafting Option—			(Mechanical Drafting Option)			
	F	S		F	S	
Drafting 256, 356	3	3	Drafting 210, 311	3	3	
Indus. Ed. 100, 210	3	3	Drafting 211, 410	3	3	
Indus. Tech. 218, 341	2	2	Indus. Tech. 131, 132	3	3	
			Drafting 411		2	
			Physics 105; Econ. 101 ..	3	3	
			Relig.	2	2	
			Physics 107	1		
			Total Hours	15	16	

Second Year			
(Mechanical Drafting Option)			
	F	S	
Drafting 210, 311	3	3	
Drafting 211, 410	3	3	
Indus. Tech. 131, 132	3	3	
Drafting 411		2	
Physics 105; Econ. 101 ..	3	3	
Relig.	2	2	
Physics 107	1		
Total Hours	15	16	

GRAPHIC ARTS TECHNICIAN

Supervisor: Ronda H. Jenkins

Printing is one of the major industries in our country today. It is vital to business and industrial organizations, civic and community organizations, and to the social, political, and economic life of our nation. Because of increasingly

complex mechanized printing equipment in use today, there is a growing need for technically trained personnel in all areas of printing production and management. The Graphic Arts Technician Program, leading to the associate degree, prepares students for work in printing and publishing industries, governmental agencies, manufacturers of paper products, and private firms that do their own printing.

First Year			Second Year		
	F	S		F	S
Indus. Ed. 250; Indus.			Commun. 365;		
Tech. 351	3	3	Indus. Ed. 494	2	3
Commun. 230; Physics			Commun. 366; biol. sci. ..	2	3
177	2	3	Indus. Tech. 451	3	
Art 110	2		Indus. Tech. 452, 453	2	5
Drafting 111;			Math. 101; Chem. 100	3	4
Bus. Ed. 101	3	2	Hist. 170	3	
Engl. 111, 112	3	3	Relig.	2	2
Health 130; Econ. 101 ..	2	3			
Relig. 121, 122	2	2	Total Hours	17	17
P.E.	$\frac{1}{2}$	$\frac{1}{2}$			
Total Hours	17 $\frac{1}{2}$	16 $\frac{1}{2}$			

LIGHT BUILDING CONSTRUCTION TECHNICIAN

Adviser: Max E. McKinnon

This associate-degree program is designed to prepare students to become successful building construction technicians. These technicians are trained in the construction of residential homes and small buildings, where new construction techniques and materials have made radical changes in the last decade. Initial employment for building construction technicians can be obtained as assistants to foremen and supervisors or as helpers to contractors and building specialists. Successful experience in this field leads to many opportunities, the more common of which include positions as building contractors, supervisors, estimators, inspectors, consultants, company managers, appraisers, and building materials salesmen.

The following two-year program will prepare students for service in this field:

First Year			Second Year		
	F	S		F	S
Indus. Ed. 105, 100	2	3	Indus. Ed. 210	3	
Indus. Ed. 139; Indus.			Indus. Tech. 211		2
Tech. 218	2	2	Indus. Tech. 317		2
Indus. Tech. 325;			Indus. Tech. 341		2
soc. sci.	2	2	Physics 105; Indus.		
Engr. Tech. 100	1		Tech. 411	3	3
Math. 121; Hist. 170	3	3	C.E. 211; Indus.		
Engl. 111, 112	3	3	Tech. 301	2	3
Health 130; biol. sci.	2	3	Indus. Tech. 410;		
Relig. 121, 122	2	2	Drafting 355	3	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Hum.	3	
			Relig.	2	2
Total Hours	17 $\frac{1}{2}$	18 $\frac{1}{2}$	Physics 107	1	
			Total Hours	17	17

TOOL DESIGN TECHNICIAN

Adviser: Dell K. Allen

This associate-degree program offers comprehensive training for a career as a technician in tool design and construction. It is planned to give the student theoretical as well as practical education in design and use of jigs, fixtures, cutting tools, and other manufacturing equipment. Graduates are employed as

junior tool designers, engineering assistants, laboratory technicians, mechanical draftsmen, inspectors, estimators, or mechanical equipment salesmen.

First Year			Second Year		
	F	S		F	S
Indus. Tech. 132;			Indus. Tech. 131, 335	3	4
Physics 105	3	3	Indus. Tech. 316, 333	4	2
Drafting 111, 211	3	3	Drafting 210;		
Math. 121, 122	3	3	Indus. Tech. 242	3	3
Engr. Tech. 100;			Hum.		2
Health 130	1	2	Physics 106;		
Engl. 111, 112	3	3	Indus. Tech. 325	3	2
Soc. sci.	2		Biol. sci.; Hist. 170	2	3
Relig. 121, 122	2	2	Relig.	2	
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$	Physics 108	1	
Physics 107		1			
Total Hours	18	18	Total Hours	18 $\frac{1}{2}$	16 $\frac{1}{2}$

WELDING TECHNICIAN

Adviser: Lester Long

This associate-degree program offers comprehensive training for the preparation of welding technicians for industry. It consists of theory and practice in oxy-acetylene, electric arc, resistance, Heliarc, and submerged arc welding. In addition, the program provides training in machine tool processes, metallurgy, technical drawing, and related general education.

With the emphasis on prefabrication, and with the rapid changes occurring in industry, welding has become very technical, requiring the service of individuals with training beyond that of the craftsman. Some of the opportunities available to the welding technician are welding foreman, leadman, supervisor, analyzer, inspector, research specialist, and welding equipment salesman.

The following two-year program will prepare the student for efficient and profitable service as a welding technician.

First Year			Second Year		
	F	S		F	S
Indus. Tech. 120, 125	2	2	Indus. Tech. 221, 226	5	5
Indus. Tech. 325, 126	2	3	Indus. Tech. 335, 227	4	3
Engr. Tech. 100	1		Indus. Tech. 242	3	
Drafting 111; Indus.			Physics 105	3	
Tech. 132	3	3	Hist. 170		3
Engl. 111, 112	3	3	Soc. sci.; biol. sci.		4
Math. 121; hum.	3	2	Relig.; Health 130	2	2
Relig. 121, 122	2	2	Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Physics 107	1	
Dev. assy.	$\frac{1}{2}$	$\frac{1}{2}$			
Total Hours	17	16	Total Hours	18 $\frac{1}{2}$	17 $\frac{1}{2}$

LIBRARY TECHNICIAN

Supervisor: Keith M. Cottam

Many positions in modern-day libraries can best be filled by library technicians. These positions occur in circulation work, filing, cataloging, work with bibliographies, and reference work. Students completing the library technician program are prepared to work in public, college, university, and industrial libraries, and in specialized research and information centers. Also, there is a trend toward adding library technicians to the school library staff and using trained people to work as media specialist assistants. The shortage of librarians is critical and likely to remain so for some time. To meet the need for library

technicians, the following associate-degree curriculum is provided. Careful planning is necessary since only one of the Lib. Tech. 200-series courses is offered each semester.

First Year			Second Year		
	F	S		F	S
LIS 111; Lib. Tech. 202 ..	1	3	Lib. Tech. 211, 212	3	3
Lib. Tech. 201	3		Lib. Tech. 213		1
Engl. 111, 112	3	3	Bus. Ed. 204, 220	2	3
Bus. Ed. 101, 203	2	2	Bus. Ed. 275	4	
Health 130	2		Hist. 170	3	
P.E. ½	½	½	Ed. 340 or Engl. 420		2
Hum. 101 or 201		3	Ed. 406	2	
Soc. sci.; biol. sci.	3	3	Phys. sci.		3
Relig. 121, 122	2	2	Relig.	2	2
			Elective		2
Total Hours	16½	16½	Total Hours	16	16

Courses

- 201. Introduction to Library Science.** (3:3:0) F. Cottam
Introduction to library Science. Survey of library work, including a brief historical overview; the fundamentals of library objectives, organization, techniques, and terminology.
- 202. Organization of Materials.** (3:3:0) S.
Problems and practice in simple classification, understanding numbers, practice in dictionary cataloging and assigning subject headings, filing cards, and care and maintenance of the collection.
- 211. Acquisition of Library (IMC) Materials.** (3:3:0) F.
To create a better understanding of the problems involved in building collections, and to learn sources of materials, order forms, and procedures.
- 212. Work with Library Users.** (3:3:0) S. Cottam
Service to users through basic reference tools in general and in each subject field; circulation methods, book talks, storytelling, and good library exhibits.
- 213. Supervised Library Practice.** (1:0:2) F.S.
Experience working in a library. Written report required.

PHOTOGRAPHIC TECHNICIAN

Supervisor. Wallace M. Barrus

The two-year associate-degree program in photographic technology is designed to prepare technicians for service on the staffs of newspapers, magazines, industrial departments, and commercial and portrait studios. Training is provided in both camera and darkroom techniques for still photography, along with supporting courses in communications, cinematography, advertising, design, and graphic arts.

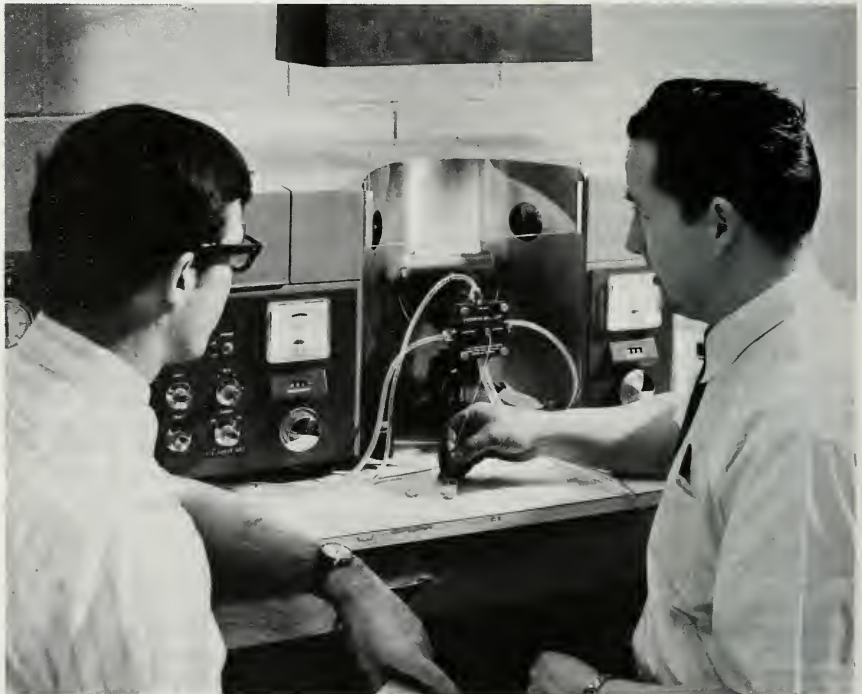
First Year			Second Year		
	F	S		F	S
Commun. 366		2	Commun. 211, 307	3	3
Art 120; Commun. 101	3	2	Commun. 365, 363	2	3
Indus. Ed. 250;			Commun. 367, 368	2	2
Indus. Tech. 453	3	5	Commun. 371, 372	2	3
Physics 177	3		Soc. sci.; biol. sci.	3	3
Engl. 111, 112	3	3	Relig.	2	2
Health 130; Hist. 170	2	3	P.E. ½	½	½
Relig. 121, 122	2	2	Electives	2	
Total Hours	16	17	Total Hours	16½	16½

PIANO TECHNICIAN

Supervisor: Lynn H. Hansen

This associate-degree program provides special preparation for students desiring to become piano technicians. Graduates from this program can qualify for employment as technicians in piano factories, music companies, schools, and governmental agencies, as well as self-employment. Students desiring to enter this program must satisfactorily pass the auditory perception test and secure the approval of the program supervisor.

First Year			Second Year		
	F	S		F	S
Mus. 101, 164	3	2	Mus. 191, 193	2	2
Mus. 163, 175	3	3	Mus. 264; Hist. 170	2	3
Math. 121, 122	3	3	Mus. 275, 276	3	4
Engl. 111, 112	3	3	Drafting 111; biol. sci.	3	3
Health 130; Physics 167 ..	2	3	Indus. Ed. 105;		
Relig. 121, 122	2	2	soc. sci.	2	3
P.E.	$\frac{1}{2}$	$\frac{1}{2}$	Acctg. 201	3	
			Relig.	2	2
Total Hours	$16\frac{1}{2}$	$16\frac{1}{2}$	Total Hours	17	17



Atomic absorption spectrophotometer used in manufacturing technology

Youth Leadership

Associate Professors: Packer (chairman, 105 RB), Stone.
Instructors: Olsen, Skinner.



The Department of Youth Leadership provides a four-year program leading to a Bachelor of Science degree in youth leadership. A curriculum is offered that is designed to prepare men and women for careers as administrators and directors of agencies and organizations that work with and for youth.

The youth leadership major must complete a core program of 17 semester hours. In addition, the student will select an emphasis for a more definitive career preparation. Emphasis courses and the core program complete the major requirements for the Bachelor of Science degree for a total of 36 hours. Emphasis preparation includes a concentration of courses designed to prepare men for executive leadership with the Boy Scouts of America; men and women for executive positions with the Boys' Clubs of America, YMCA, Boys' Ranches, YWCA, Girl Scouts of the United States, Campfire Girls, and governmental agencies related to youth, etc; and men and women for youth acculturation and educational programs which use the outdoors as a laboratory for building interpersonal values and enriching the learning experience.

In addition to career preparation, the department has a second objective. It is to provide college men and women with knowledge and experience in a variety of youth leadership positions that they may better serve church and community as volunteer leaders and participating members.

Youth Leadership Core Program

	Hours
Youth Ldrship. 305. Agency Finance and Council Operating Committee Functions (finance first semester only)	3
Youth Ldrship. 332. Community Relationships	3
Youth Ldrship. 344. Introduction to Youth Agencies and Youth Movements	2
Youth Ldrship. 375. Executive Dynamics	2
Youth Ldrship. 378. Techniques of Outdoor Adventure	2
Youth Ldrship. 412. Executive Field Training	8
Youth Ldrship. 491. Youth Conference Planning and Administration	2
Youth Ldrship. 492. Seminar in Research Problems and Program Trends	1
	17

Scout Executive Emphasis

	Hours
Core Program	17
Youth Ldrship. 172. Cub Scout Leadership	2
Youth Ldrship. 173. Boy Scout Leadership	2
Youth Ldrship. 174. Explorer Leadership	2
Youth Ldrship. 301. Camp Leadership	1
Youth Ldrship. 302. Summer Camp Administration	4
Youth Ldrship. 306. Agency Finance and Council Operating Committee Functions (finance first semester only)	3
Youth Ldrship. 312. Commissioner Service and District Operation	2

Youth Ldrship. 410.	Historical Development of Scouting	2
Youth Ldrship. 490.	Field Activities	1
		<hr/> 36

General Emphasis

		Hours
Core Program		17
Speech and Dram. Arts 301.	The Art of Public Speaking, or	
Speech and Dram. Arts 403.	Persuasive Speaking	2
Bus. Mgt. 321.	Organizational Behavior and Administration, or	
Commun. 535.	Public Relations	3
Sociol. 210.	Racial and Minority Group Relations, or	
Social. 449.	Community Organization, Action, and Planning	2
Health 121.	First Aid and Safety Instruction, or	
Micro. 311.	Sanitation and Public Health	2
Sociol. 383.	Juvenile Delinquency	2
Commun. 211.	News Writing, or	
Bus. Ed. 220.	Business Communication	3
Youth Ldrship. 381.	Teaching in the Outdoors, or	
Ed. 415.	Educational Values	2
Rec. Ed. 407.	Administration of Playgrounds and Community Center, or	
Selected P.E. instructional classes		3
		<hr/> 36

Youth Acculturation Emphasis

		Hours
Core Program (Youth Ldrship. 412 not required)		15
Youth Ldrship. 301.	Camp Leadership	1
Youth Ldrship. 302.	Summer Camp Administration	4
Youth Ldrship. 380.	Skills and Techniques of Land Survival	2
Youth Ldrship. 381.	Teaching in the Outdoors	3
Youth Ldrship. 480.	Youth Acculturation Through Outdoor Survival	5
Rec. Ed. 410.	Problems and Trends in Outdoor Education	2
Rec. Ed. 503.	Administration of School and Community Camps	2
Ed. 415.	Educational Values	2
Health 121.	First Aid and Safety Instruction	2
		<hr/> 36

Requirements for a Youth Leadership Minor

For a minor in youth leadership, courses of the core program are to be completed for a total of 14 hours. The core program is flexible for the minor, and some adjustment is permitted by approval of the department chairman.

Recommended Elective Courses for the Youth Leadership Major

- Bus. Mgt. 380, 381. Executive Lectures. (1:1:0 ea.)
- Commun. 255. Introduction to Broadcasting. (2:2:1)
- Commun. 230. Introduction to Advertising. (2:2:0)
- Geol. 510. Conducted Field Trips. (1-3:Arr.:Arr.)
- Health 460. Alcohol and Narcotic Education. (2:2:0)
- Indus. Ed. 160. Recreational Handicrafts. (2:1:3)
- Indus. Ed. 260. Crafts. (3:2:4)
- Law Enf. 101. Introduction to Law Enforcement. (3:3:0)
- Law Enf. 102. Patrol and Related Police Operations. (3:3:0)
- Psych. 321. Psychology of Adolescence. (3:3:0)
- Sociol. 360. Introduction to the Field of Social Work. (3:3:0)

Sociol. 316. Social Control. (3:3:0)

Sociol. 357. Group Relations and Leadership. (3:3:0)

Speech and Dram. Arts 305. Discussion and Conference Leadership. (2:2:1)

Speech and Dram. Arts 309. Parliamentary Procedure. (1:1:2)

Speech and Dram. Arts 527. Storytelling. (2:2:0)

Courses

172. Cub Scout Leadership. (2:2:0) S. (m) Skinner
Designed to teach the organization, administration, and purpose of Cub Scouting as a basic experience of the American home. Lecture, demonstration, and laboratory participation.

173. Boy Scout Leadership. (2:2:0) F. (m) Skinner
Acquisition of techniques and skills designed to produce youth leadership and fellowship. Lecture, demonstration, and laboratory participation.

174. Explorer Leadership. (2:2:0) S. (m) Skinner
An examination of programming for the teen-ager. Lecture, demonstration, and laboratory participation.

278. Principles of Camping. (1:1:2) S. Skinner
Teaching techniques of camping skills required of camp directors. Elementary outdoor cooking, sanitation, safety, and camp making. Successful completion of this course will also certify the student for Campcrafter Rating in the American Camping Association.

301. Camp Leadership. (1:lecture and lab. in an organized camp situation for one full week) F. Packer
Theory and application of principles of camp administration, camp aquatics, and camp program. Taught by National Council (Boy Scouts of America) at a selected local council camp. Recommended for youth leadership majors only.

302. Summer Camp Administration. (2-4:0:4-8 weeks) F. Packer
Provides an actual administrative experience as a staff member of a local council summer camp. The course may be extended to additional summer employment for some students. Selection of campus arranged for by the department. Required of youth leadership majors only.

305, 306. Agency Finance and Council Operating Committee Functions. (3:3:0 ea.) F.S. (m) Packer, Stone
Analysis of United Funds, independent campaigns, bequests, endowments, and trust funds and their applications. Organizational and operational practices of agencies on the administrative level are also emphasized.

312. Commissioner Service and District Operation. (2:2:0) Stone
Combines the study of the organization, operation, and function of the district committee and commissioner service.

332. Community Relationships. (3:3:0) F. (m) Packer, Stone
Examines the institutional acceptance of scouting as a major youth program in America and defines the relationships of the major religious and civic sponsors of scouting to the Boy Scouts of America.

344. Introduction to Youth Agencies and Youth Movements. (2:2:0) F.S.Su. Packer
Survey and analysis of youth programs from antiquity to the present. A focus on world impact through youth manipulation by government, church, and society from Nazi Germany to the present will be emphasized. The impact of the volunteer agency on American culture will be explored.

□ **Religion 365. Applying Gospel Principles in Church Youth Programs. (2:2:0)**

- 375. Executive Dynamics. (2:2:0) S.** Packer, Stone
Methods and practices of executive work scheduling for youth agency administrators. Public and group leadership demands are examined, and personal programs are developed to meet these demands.
- 378. Techniques of Outdoor Adventure. (2:2:3) F.S.** Skinner
Advanced outdoor skills and camp program planning for youth leaders. Campcrafter certification for the ACA is emphasized. Successful completion of this course will qualify the student as an Advanced Campcrafter or Tripcrafter in the American Camping Association.
- 380. Skills and Techniques of Land Survival. (2:2:1) F.S.Su. (m)** Olsen
Designed to train the student to meet the adversity of primitive living without the use of perfected outdoor equipment and facilities. During the semester there will be four Saturday labs included in the course.
- 381. Teaching in the Outdoors. (3:2:2)** Olsen
Development and use of the outdoor teaching situation to implement the achievement of educational objectives.
- 410. Historical Development of Scouting. (2:2:0) S.** Stone
Traces the evolution of the program of scouting in America and defines the organization, functions, and services of the national council to the local council.
- 412. Executive Field Training. (2-8:2:40)** Prerequisite: completion of all other major requirements. Packer
Classroom and laboratory experience requiring participation off campus in a full-time administrative assignment. Financed assistance is developed by the cooperating agency providing the assignment opportunity.
- 480. Youth Acculturation Through Outdoor Survival. (3-5:5 per week/3 weeks: 70 per week/3 weeks) F.S.Su.** Olsen
A living experience course for youth leaders. Use of outdoor physical and emotional stress situations and self-initiative involvements in aiding youth to make interpersonal decisions and commitments of a moral and ethical nature. A 26-day wilderness survival experience is part of the course. Laboratory fee.
- 490. Field Activities. (1:1:1) F. (m)** Packer
A study and laboratory experience in traditional council events designed to win public acclaim, enrich program experience, and develop financial support for the local council.
- 491. Youth Conference Planning and Administration. (2:2:1) S.Su. (m)** Packer, Stone
Deals with planning and organization of youth conferences, with laboratory participation through established BYU programs and ward, stake, and youth-agency conferences now being conducted.
- 492. Seminar in Research Problems and Program Trends. (1:1:0) F.** Packer, Stone

Zoology

Professors: Allred, Chapman, Frost, Hayward (emeritus), Murphy (chairman, 575 WLSB), Nicholes, V. Tanner (emeritus), W. Tanner, Wood.

Associate Professors: Andersen, Heninger, Jausi, Jorgensen, Tipton.

Assistant Professors: Barnes, Bradshaw, Braithwaite, Farmer, Jeffery, Nyberg, Simmons, Smith, White, Whitehead.

Instructor: Pritchett.

Special Instructor: M. C. Oaks (M.D.).

Collaborators: M. Baker, W. G. Dixon (M.D.).



The Department of Zoology offers courses designed to

1. Instruct students who plan to obtain a B.S., M.S., or Ph.D. degree in zoology.
2. Contribute toward the training of prospective teachers of biological science.
3. Prepare students to pursue studies in professional schools such as medicine, dentistry, and paramedical subjects.
4. Aid students in other departments who need supporting work in zoology.
5. Meet general education requirements in the biological sciences for all students seeking baccalaureate degrees.

Requirements for a Major

A student who elects to major in the Department of Zoology will be assigned an adviser who will assist him in organizing his program. His course of study must include (1) the general education and other minimal credit requirements of the University, and (2) the general departmental requirements listed below. These include specific courses required of all majors, plus additional courses in zoology and supporting fields which will adequately train him in an area of specialization. His course of study in zoology and supporting fields must be formulated in consultation with his adviser before the end of his first semester in residence after he has declared his intent to major in the Department of Zoology. A student may alter his course of study with the approval of his adviser, but the change must be made a part of his written course of study.

Some suggested areas of specialization are

Anatomy
Developmental Biology
Ecology
Fisheries and Wildlife Biology
Genetics
Marine Biology

Molecular Biology
Natural History
Parasitology
Physiology
Taxonomy

In these or other areas where applicable a student may center his specific interest in entomology, invertebrate zoology, or vertebrate zoology.

General Departmental Requirements

Courses in zoology used for a baccalaureate major must be passed with a grade no lower than "C-." Regardless of the area of specialization, all zoology majors must complete the following:

Bio. Agr. Ed. 201; Zool. 202, 203, 376, 465 or 466, plus a minimum of 11 credit hours of electives in zoology approved by his adviser.

Students interested in preprofessional preparation (medicine, dentistry, dental hygiene, optometry, or pharmacy) should refer to the instructions given in the College of Biological and Agricultural Sciences section of this catalog (Page 72).

Prospective teachers of zoology or biology should refer to the requirements listed in the latter part of the Education section (Page 231).

Graduate Degrees

The Department of Zoology offers course work and training toward the Master of Science and Doctor of Philosophy degrees in zoology. A student may perform research in such disciplines as anatomy, ecology, genetics, molecular biology, physiology, taxonomy, or zoogeography. Where applicable, he may specialize in a particular group of animals in the areas of invertebrate or vertebrate zoology. For further information consult the Graduate School Catalog.

Courses

105. **Animal Biology.** (3:3:2) F.S.Su. (G-BS)
For nonbiology majors.
- **Biological and Agricultural Education 201. Introduction to Biology.** (4:5:0)
202. **Invertebrate Zoology.** (4:3:4) F.S. (G-BS) Prerequisite: Bio. Agr. Ed. 201 or equivalent. Barnes, Braithwaite
Functional morphology, taxonomy, ecology, and interrelationships of the invertebrates. Formerly Zool. 212.
203. **Vertebrate Zoology.** (4:2:4) F.S.Su. (G-BS) Prerequisite: Bio. Agr. Ed. 201 or equivalent. Pritchett, Smith
Structure, classification, and natural history of the vertebrates. Formerly Zool. 213.
235. **Insect Life.** (3:2:2) F.S. (G-BS) Prerequisite: one year of high school biology, or Zool. 105 or Bot. 101. Whitehead
Fundamentals of insect biology for nonscience majors.
261. **Elementary Human Physiology.** (4:3:2) F.S.Su. (G-BS) Prerequisite: Chem. 101 or equivalent.
Primarily for students of physical education, physical therapy, nursing, and food science and nutrition.
262. **Elementary Human Anatomy.** (2:1:2) F.S.Su. (G-BS) Prerequisite: Physics 100 or equivalent. Nicholes
Primarily for students of physical education and physical therapy. Recommended for students of nursing.
276. **Heredity.** (3:3:0) F.S.Su. (G-BS) Prerequisite: Bot. 101 or 105, or Zool. 105, or equivalent. Jeffery
Principles of inheritance for nonscience majors. Equivalent to Bot. 276. Cannot be taken for credit by students who have taken Bot. 276 or 376, or Zool. 376.
312. **Introduction to Marine Biology.** (3:3:0) S. Prerequisite: Zool. 202. Braithwaite
Marine life, the sea as an environment, and oceanographic research methods.
317. **Human Parasitology.** (3:2:3) F. Prerequisite: see Zool. 105. Andersen
Ecology and epidemiology of parasitic diseases of man.
321. **History and Philosophy of Biology.** (2:2:0) F.S.Su. Prerequisite: a college course in one of the biological sciences. Frost
Development of biological thought from the Grecian period to the present. Formerly Zool. 385.

- 325. Biological Techniques.** (1:0:3) F.S.Su. Simmons
Techniques of preparing specimens and materials for demonstration and study. Formerly Zool. 372.
- 331. Introductory Entomology.** (4:2:4) F.S. Prerequisite: Biol. 201 or equivalent. Tipton
Structure, classification, and life histories of insects and selected arthropod relatives. Formerly Zool. 230.
- 344. Natural History of the Vertebrates.** (4:3:2) F.S. Prerequisite: Zool. 203.
Primarily for secondary teachers in biology.
- **Biological and Agricultural Education 351. Natural History for Elementary Teachers.** (3:2:2)
- 357. Wildlife Conservation.** (2:2:0) F. Frost
Conservation of natural resources, particularly related to animals.
- 363. Comparative Vertebrate Anatomy.** (4:2:4) F.S. Prerequisite: see Zool. 105.
Recommended: Zool. 203. Tanner
Body systems of the major vertebrate groups from fishes through mammals.
- 364. Pathology of Organs of Vision.** (2:2:0) S.Su. Prerequisite: Zool. 261. Oaks
Structure, function, pathology, and hygiene of the eye. May not be used for credit towards a major in zoology. Formerly Zool. 374.
- 376. General Genetics.** (3:3:0) F.S. (G-BS) Prerequisites: an introductory course in college biology, and a one-year course in college chemistry. Jeffery
Equivalent to Bot. 376; may be used for either botany or zoology credit. Cannot be taken for credit by students who have taken Bot. 276 or 376, or Zool. 276.
- 378. Genetics Laboratory.** (1:0:3) S. Prerequisite: completion of or concurrent registration in Zool. 376. Jeffery
- 380. Histology.** (3:2:3) F.S. Prerequisite: Zool. 213 or 363. Chapman
Microscopic study of tissues and organs. Formerly Zool. 370.
- 381. Histological Techniques.** (2:0:4) S. Prerequisite: see Zool. 105. Chapman
Preparation of tissues for microscopic examination. Formerly Zool. 371.
- 417. General Parasitology.** (4:3:3) S. Prerequisite: Zool. 202. Andersen, Nyberg
Parasites of man and domestic animals. Students cannot receive credit for both Zool. 317 and 417.
- 418. Protozoology.** (3:2:3) S. (Offered 1970-71 and alternate years) Prerequisite: Zool. 202. Nyberg
Biology of the protozoa.
- 430. External Morphology of Insects.** (3:2:3) F. Prerequisite: Zool. 331. Whitehead
Formerly Zool. 330 (part).
- 451. Introduction to Animal Ecology.** (3:2:2) S. Prerequisites: a course in geology; Zool. 203, 331. Murphy
Integrated principles of ecology. Field trips scheduled for five Saturdays, including one 3-day weekend.
- 465. Mammalian Physiology.** (4:3:3) S. Prerequisites: Zool. 203; completion of or concurrent registration in Chem. 351 or 151. Heninger, Jaussi
Functions of body systems of mammals.
- 466. General and Comparative Physiology.** (4:4:3) F. Prerequisites: Zool. 202, 203; completion of or concurrent registration in Chem. 351 or 151. Jaussi
A comparison of functions of body systems in the animal phyla.

- 483. Embryology.** (4:2:6) F.S. Prerequisites: Zool. 203, 376. Bradshaw
Principles of developmental biology. Laboratory emphasis on body systems of vertebrates. Formerly Zool. 373.
- 517. Experimental Parasitology.** (3:2:3) S. (Offered 1971-72 and alternate years) Prerequisite: Zool. 317 or 417. Andersen, Nyberg
- 520. Research Organization and Reporting.** (1:1:1) F.S. Allred
- 521. Zoological Literature.** (2:2:0) F. Wood
Literature of zoology applicable to research and writing. Formerly Zool. 510.
- ☐ **Botany 522. Biological Instrumentation.** (3:1:6)
- ☐ **Botany 525. Ultrastructural Interpretation.** (3:3:0)
- 530. Insect Classification.** (4:1:6) S. Prerequisite: Zool. 430. Wood
Principles of animal classification, with emphasis on insects. Formerly Zool. 332.
- 531. Internal Morphology and Physiology of Insects.** (4:2:6) S. (Offered 1970-71 and alternate years) Prerequisites: Zool. 430; and Chem. 151 or 351. Formerly Zool. 330 (part), 531. Whitehead
- 534. Economic Entomology.** (3:2:2) S. Prerequisite: Zool. 331. Jorgensen
Formerly Zool. 334.
- 535. Medical Entomology.** (2:1:2) F. Prerequisite: Zool. 331. Recommended: Micro. 331. Tipton
Arthropods which affect the health of man and domestic animals. Formerly Zool. 433.
- 538. Immature Insects.** (2:0:4) S. (Offered 1971-72 and alternate years) Wood
- 543. Ichthyology.** (2:2:2) F. Prerequisite: Zool. 203. White
The anatomy, classification, and ecology of fishes. Formerly Zool. 343.
- 545. Herpetology.** (2:1:2) S. Prerequisite: Zool. 203. Tanner
The classification, distribution, ecology, and natural history of reptiles and amphibians. Formerly Zool. 345.
- 546. Ornithology.** (2:1:2) S. Prerequisite: Zool. 203. Frost
The classification, field and laboratory identification, and natural history of birds. Formerly Zool. 346.
- 547. Mammalogy.** (2:2:2) F. Prerequisite: Zool. 203. Smith
Formerly Zool. 347.
- 551, 552. Population Ecology I, II.** (2:1:3 ea.) F.S. Prerequisites: Zool 451, 551; completion of or concurrent registration in Stat. 501, 502; or equivalents. Jorgensen
Principles of population ecology and methods of research. Field trips scheduled five Saturdays.
- 556. Limnology.** (3:2:2) F. Prerequisite: Zool. 451 or equivalent. White
Interactions of biota within freshwater systems. Field trips scheduled four Saturdays. Formerly Zool. 540.
- 561. Advanced Vertebrate Anatomy.** (3:1:4) F. (Offered 1970-71 and alternate years) Prerequisite: Zool. 363. Tanner
- 565. Endocrinology.** (3:3:0) S. Prerequisite: Zool. 465 or equivalent. Heninger, Jaussi
- 566. Experimental Endocrinology.** (2:0:6) S. Prerequisite: Zool. 465. Heninger, Jaussi
Experiments selected to familiarize students with techniques used in research.

- 574. Molecular Biology.** (3:3:0) S. Prerequisites: Chem. 581; course in genetics.
Farmer
Molecular basis of physiology, with emphasis on cellular control systems and biochemical genetics.
- 576. Human Genetics.** (3:3:0) S. (Offered 1970-71 and alternate years) Pre-requisite: Zool. 376 or Bot. 376. Jeffery
Genetics of physical and mental characteristics of man; heredity and environment; genetics of human populations.
- 577. Developmental Genetics.** (3:3:0) S. (Offered 1971-72 and alternate years) Prerequisites: Zool. 483; Zool. 376 or Bot. 376. Bradshaw, Jeffery
Control of gene expression during embryonic development; genetic mechanisms of cell differentiation.
- 578. Radiation Biology.** (2:2:0) F. Prerequisites: Bio. Agr. Ed. 201; Physics 202; Chem. 352. Farmer
Interaction of radiation with matter, and effects of radiation on living systems.
- 581. Experimental Embryology.** (2:1:3) S. Prerequisite: Zool. 483. Bradshaw
Formerly Zool. 573.
- 582R. Advanced Topics in Embryology.** (2:2:0 ea.) F. Prerequisite: Zool. 483. Bradshaw
Formerly Zool. 695.
- 583. Etiology and Pathology of Brain Injury.** (3:2:2) Su. Prerequisite: consent of instructor. Chapman
May not be used for credit towards a major in zoology. Formerly Zool. 563.
- 584. Neurology.** (2:1:2) S. Prerequisite: consent of instructor. Chapman
Functional anatomy of the nervous system, including the principal nervous pathways. Formerly Zool. 564.
- 591R. Special Problems in Zoology.** (1-2:Arr.:Arr. ea.) F.S.Su. Prerequisite: consent of instructor.
- 601. Zoogeography.** (2:2:0) F. Frost, Tanner
Formerly Zool. 555.
- 609. Systematic Zoology.** (2:1:2) S. (Offered 1970-71 and alternate years) Wood
Formerly Zool. 610.
- 612. Advanced Invertebrate Zoology I.** (3:2:3) F. Prerequisite: Zool. 202 or consent of instructor. Barnes, Braithwaite
Comprehensive biology of the lower Metazoa (Parazoa, Radiata, Acoelomata, Pseudocoelomata, and lower Protostomia).
- 613. Advanced Invertebrate Zoology II.** (3:2:3) S. Prerequisite: Zool. 612 or consent of instructor. Barnes, Braithwaite
Comprehensive biology of the higher Protostomia and Deuterostomia, excluding the terrestrial arthropods.
- 620. Theoretical Zoology.** (2:2:0) F. Prerequisite: consent of instructor. Tanner
Formerly Zool. 680.
- ☐ **Botany 621. Electron Microscopy.** (2:2:0)
- ☐ **Botany 622. Electron Microscopy Laboratory.** (1:0:3)
- 632. Acarology.** (3:1:6) F. (Offered 1971-72 and alternate years) Allred, Jorgensen
Formerly Zool. 624.

- 633R. Advanced Topics in Entomology.** (1-2:Arr.:Arr. ea.) Prerequisite: consent of instructor.
Formerly Zool. 533, 625.
- 644R. Advanced Topics in Vertebrate Zoology.** (1-4:Arr.:Arr. ea.) S. Prerequisite: consent of instructor.
Studies in ichthyology, herpetology, ornithology, or mammalogy. Formerly Zool. 643, 645, 646, 647.
- 651, 652. Community Ecology I, II.** (2:1:3 ea.) F.Su. Prerequisites: Zool. 451, 651; completion of or concurrent registration in Stat. 501, 502; or equivalents. Smith, White
Principles of community ecology and methods of research. Field trips scheduled five Saturdays.
- 657R. Advanced Topics in Animal Ecology.** (2:2:0 ea.) F.S. Prerequisite: Zool. 451.
The specific topic will be announced at the beginning of each semester. Formerly Zool. 690.
- 662. Advanced Physiology I.** (2:1:2) F. Prerequisite: Zool. 465 or consent of instructor. Heninger, Jaussi
- 663. Advanced Physiology II.** (2:1:3) S. Prerequisite: Zool. 465 or consent of instructor. Heninger, Jaussi
- 681. Advanced Histology.** (2:0:4) F. (Offered 1971-72 and alternate years) Prerequisite: Zool. 380. Chapman
Formerly Zool. 670.
- 696R. Graduate Seminar.** ($\frac{1}{2}$:1:0 ea.) F.S.Su.
- 699. Thesis for Master's Degree.** (Arr.) F.S.Su.
- 799. Dissertation for Ph.D. Degree.** (Arr.) F.S.Su.



Students in vertebrate anatomy class examine animal skeleton

Division of Continuing Education

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Richard H. Henstrom, coordinator
Phileon B. Robinson, Jr., coordinator

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Department of Evening Classes: Frank Santiago, chairman
Department of Home Study: E. Mack Palmer, chairman
Department of Off-Campus Lectures and Courses: Milton L. Sharp, chairman
Department of Special Courses and Conferences.
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BYU-Ogden Center for Continuing Education: George S. Haslam, chairman
BYU-Ricks Center for Continuing Education: Thomas D. Kershaw, acting chairman
BYU-Salt Lake Center for Continuing Education: Keith L. Smith, chairman

GENERAL INFORMATION

The purpose of the Division of Continuing Education since its establishment in 1921 has been to provide educational programs and services of the regular University day school to adults who do not have opportunities for daytime study. The division services range from off-campus programs, lectures, correspondence study, and community services—both through the off-campus centers and extended programs in wide geographic areas—to formal on-campus classroom offerings, both credit and noncredit, extended and short-term in nature.

Many teachers of the courses scheduled through the Division of Continuing Education are selected from the regular BYU faculty. In addition a special part-time, off-campus faculty is available and is listed in the Special Instructors and Lecturers section of this catalog.

WHO MAY ENROLL IN CONTINUING EDUCATION CLASSES

Requirements and Restrictions. Anyone having the desire and ability may register for noncredit courses. The purpose of continuing education is to serve the needs of adult students.

Credit classes are open to anyone nineteen years of age or a high school graduate who is in good standing at BYU and at the institution last attended. No student who has been suspended from a university or refused admission to BYU or any other university having comparable entrance standards will be allowed to register for credit courses. However, such students may be accepted as Home Study students.

Generally undergraduate students may not register for graduate classes.

Degree-Seeking Student. Acceptance as a student in a continuing education course does not mean that the individual concerned has been accepted by Brigham Young University or any other university on a degree-seeking basis. It is the responsibility of each student to gain admission to the university of his choice as a degree-seeking student through the normal procedures listed in the university catalog. At BYU this may be accomplished by contacting the Office of Admissions and Records. All credit received prior to the student's formal admission will then be evaluated.

Student Responsibility. The Division of Continuing Education at BYU takes no responsibility for the acceptance of a student's credit courses toward a degree or for accreditation purposes of any nature at any university. Clearing these courses for accreditation of any kind is the responsibility of the student. Such clearance should be made before the student enrolls in the course.

Department of Education Week Programs

Education Week, formerly called Leadership Week, has been held annually on the BYU campus since 1922 and has gained nationwide attention. For the past several years the program has been gradually moving into more and more locations throughout the United States. In 1969 the program was presented in 53 locations, extending to Calgary on the north; Colonia Juarez, Mexico, on the south; east as far as Boston; and west along the Pacific coast. It is anticipated that the 1970 programs will be held in approximately 60 locations. It is projected that there will be eventual expansion to include all sections of the United States. Education Week is usually a three-day program involving six to ten faculty members, each presenting three hours of lecture on each of three days. Often local teachers are used in their areas of specialization.

Campus Education Week. For many years adults from all walks of life have spent their vacations or other spare time attending the four-day festival of learning at Brigham Young University. Many of the colleges of the University, through their faculties and off-campus consultants, provide selected educational experiences which help members of the Church and other patrons of the University to become better leaders in the professions, the home, the community, and the Church. Education Week is leadership training for everyone, since all in the home are leaders or potential leaders. A few of the areas of instruction are these: human relations; scientific advancements; the world of business; better teaching methods; literature, music, drama, and speech activities; teen-age problems; handicraft arts; and instruction in genealogy and the scriptures. Religious lectures from the General Authorities and others also add greatly to the interest and value of Education Week. Devotional assemblies, evening entertainments, tours, lectures, demonstrations, and workshops enhance the offering of this week.

Department of Off-Campus Lectures and Courses

The Department of Off-Campus Lectures and Courses provides services to the off-campus areas not already served by a BYU Center for Continuing Education (Salt Lake City and Ogden, Utah; Idaho Falls and Rexburg, Idaho; Covina, California).

Programs have been held in over 40 cities in the eastern United States and approximately 30 cities in the western United States. Also, programs have been held in Alaska, Canada, and Mexico.

Detailed information can be obtained by writing the Department of Off-Campus Lectures and Courses, Division of Continuing Education, Brigham Young University, Provo, Utah 84601.

Credit Courses. A request for a credit course is filled by the scheduling of a University teacher or an approved off-campus teacher, who travels to an off-campus location to conduct the course. Credit courses provide regular BYU credit and may be used to renew a teaching certificate, to apply toward a degree, or to broaden one's intellectual or spiritual horizons. In-service credit classes for school districts are also available. (Ordinarily a two-semester-hour class will meet one evening each week for eleven weeks. A wide choice of courses is available; in fact, courses listed in the BYU catalog, subject to the approval of the BYU administration, may be scheduled off campus.)

Educational Television. BYU now has its own television station, which is on the air each day except Sunday. The station broadcasts on Channel 11. Courses are offered both on a credit and a noncredit basis. Seminars, special conferences, and various publications will be used in conjunction with these programs. The range of the new television station reaches throughout most of

the state of Utah and in the not-too-distant future should reach into several of the surrounding states.

Education Day Programs. Education Day programs are Saturday programs patterned after Education Week. They are held in Utah communities and in Church population areas close enough that faculty can fly in on a weekend for a day of classes. These programs have a wide variety of subject material similar to the Education Week programs. They can be scheduled any Saturday of the year and the sponsoring organization can approve the faculty and topics.

Lecture Circuits. An innovation in University offerings is "lecture circuits." Generally, two faculty members lecture for one night in Church-populated centers on a particular circuit. Circuits can also be set up with one faculty member in such areas as genealogy, music, family relationships or other subject areas. Thirty-two eastern cities participated in this type of circuit in 1969.

Department of Travel Study

BYU Travel Study programs are designed for students who wish to increase their knowledge and understanding of their own nation and of other lands and people through purposeful educational travel under the direction of the University. Adults off campus as well as individuals on campus may qualify as participants on these programs. Participants must adhere to standards of The Church of Jesus Christ of Latter-day Saints.

Semester Abroad Programs

Of particular interest to on-campus students are the Semester Abroad Programs. Participation in these programs allows internationally-minded students the opportunity of living and studying in world-famous cultural centers.

Semester in Salzburg, Austria. This program was founded in 1965. BYU students spend a full semester in this beautiful city studying language, music, Austrian culture, and group-fillers usually in religion, humanities, and/or social sciences.

Semester in Grenoble, France. Originating in 1966, this program furnishes the student with the opportunity of personal association with the people, language, and culture of this centrally-located, western European area. Studies include language, art, and group-fillers usually in humanities, religion, and/or social sciences.

Semester in Jerusalem, Israel. In order to keep abreast of foreign affairs in this vital area, BYU furnishes its students with the opportunity of living and studying in the very heart of the Holy Land. Experiences vary from living in an Israeli kibbutz to Hebrew classes at an Ulpan. The department initiated its first program in 1968.

Semester in Madrid, Spain. Founded in 1969, this highly-successful program emphasizes language, art, religion, and group-fillers usually in humanities and/or social sciences. The program offers personal association with the people and the culture.

Summer Residence Programs

Of particular interest to students who would like to earn credit during the summer are the summer residence programs. Summer residence participants are allowed to study abroad, receiving 6 to 12 credit hours during the summer. The following are current summer residence programs:

- Asian Studies Abroad (Japan and Taiwan)
- Summer in Hawaii
- Summer in London
- Summer in Mexico
- Mexico for Teachers

Travel Study Tours

The Department of Travel Study also offers foreign and domestic tours for students and adults. These tours leave at various times during the year and cover a variety of countries. The following are current tours:

- Europe Embraced
- Europe with BYU
- Europe on a Shoestring
- Splendid Scandinavia
- Europe in a Nutshell
- Bible Lands
- Mayan Magic (Mexico and Central America)
- Adventure South America
- 'Round the Pacific
- 'Round the World
- Operation Mediterrific ('Round the Mediterranean)
- Osaka and Beyond (Japan World's Fair—Orient)
- Our Heritage Regained (Church History)
- BYU Hits Broadway (New York Theater)
- Hawaii Adult Tour

Department of Evening Classes

Credit. Regular college credit equivalent to daytime classes is given for all evening classes. Anyone wishing to do so may take a class on a noncredit basis as an auditor.

Veterans. Veterans are eligible to enroll under the G.I. Bill if they meet the eligibility requirements of the Veterans' Administration.

Class Schedules. A class schedule of all classes is published each semester. These class schedules, giving detailed information about all procedures, are available free of charge upon request. Courses listed in the Evening Classes schedule which do not receive ten or more registrations may be cancelled. Students who have registered in cancelled classes will be notified and invited to join other classes or will be given a full refund.

Counseling. At scheduled times during each registration period, trained counselors are available who will aid students in making educational and vocational plans or in working through related personal problems. There is no charge or obligation to the student for these services.

Day Students. Day students may enroll in Evening Classes on their regular registration card by picking up class cards marked "Section 90." An extra fee of \$3.00 per credit hour is charged the day school student for these classes.

Drop and Add Fee. Five dollars is charged for each change slip presented after the first week of the semester, unless the action is caused by the cancellation of an Evening Class.

Withdrawal Procedure. Each student registered through the Department of Evening Classes who discontinues attendance at class must use the proper procedure to withdraw by coming to 225 Herald R. Clark Building.

Tuition and General Fees. Tuition and fees are delineated in current schedules.

Refunds. A prorated refund of tuition fees will be made to those who withdraw properly from Evening Classes during the first half of the semester. There is no refund for withdrawals occurring after the first half of the semester.

Registration. Students registering for Evening Classes only should register on the dates and times announced by the Department of Evening Classes.

Department of Home Study

The Division of Continuing Education offers Home Study courses to aid in widening the educational horizons of the many people who cannot take college work in residence.

What Is It? Home Study is instruction with a personal touch.

Why Home Study? Home Study is for those who cannot take courses in residence or for students in residence who, because of conflicting class schedules or other reasons, are unable to enroll in desired classes on campus. This department provides courses required for entrance requirements, courses needed to complete high school or for teacher certification, courses for those serving their country in the armed forces or for veterans who wish to maintain their entitlement, for people working in industry who wish to acquire broader culture or to improve their skills, for professional people with a desire for continued intellectual and professional progress, and for those desirous of pursuing some course for personal development and interest.

Catalog. A Home Study catalog is available without charge to anyone who wishes detailed information on all courses, fees, and registration.

USAFI Personnel and Veterans. Brigham Young University has been approved to offer Home Study courses to the men and women in the armed forces and to veterans.

Credit. The number of credit hours of Home Study course work that will apply toward graduation requirements is limited to 24 semester hours.

Examinations. Examinations are required in all correspondence courses unless otherwise stipulated.

Department of Special Courses and Conferences

The Department of Special Courses and Conferences, organized to meet the academic needs and desires of many different age and educational background groups, provides flexible, varied credit and noncredit programs on the Brigham Young University campus and in Utah County. It offers courses for specific interest groups or for the public at large.

Offerings, presented on a high academic level, are informative in nature yet informal and flexible as to content and presentation.

The instructional staff of this department is composed of members of the regular BYU faculty and other professional and academic specialists. Tuition fees vary according to the length of the course or the special expenses which may be involved. Persons representing groups which desire special courses or lectures on the BYU campus may have such courses initiated by contacting this department located at 242 Herald R. Clark Building.

The Department of Special Courses and Conferences presents programs in the following categories:

Conferences. Programs which are conducted for professional groups in concentrated intensive sessions, usually over a period of one day to one week. These groups often hold business meetings in addition to considering academic materials.

Workshops and Clinics. Programs which involve a high degree of participation and activity by registrants and which include learning of professional and avocational skills.

Special Courses. Credit or noncredit courses which do not fall into the administrative areas of regular classes or of Evening Classes.

Lectures. Short discourses on various academic subjects, sometimes presented in a series or singly.

Seminars. Courses for groups of supervised students or professional persons doing research or advanced study.

Centers for Continuing Education

Sensing the obligation of the Church University to provide educational opportunities in harmony with LDS standards for persons away from Provo, the Board of Trustees has established continuing education centers. These centers offer the same service of continuing education to the people of the center's area, including Education Week, as those offered to people who live near Brigham Young University. Any student expecting to earn a degree from BYU may do much of his work at a continuing education center, but at least 20 semester credit hours must be earned on the campus in Provo for a baccalaureate degree and 15 semester credit hours for an associate degree. (See section entitled "Graduation Requirements" under Student Academic Services in this catalog for residence requirements.) Graduate degree residence requirements are covered in the Graduate Catalog.

BYU-Ricks Center for Continuing Education

The first center was established at Rexburg, Idaho, in July 1956. In January 1959 the center headquarters was moved from Ricks College and is now located at 225 First Street, Idaho Falls, Idaho. An office is maintained at Ricks College in Rexburg. The center provides off-campus courses, evening classes, summer classes, Education Week and special programs. On November 15, 1959, a branch of the Division of Communication Services of Brigham Young University was established at the BYU-Ricks Center in Rexburg. The influence of this center has been felt as far as Ontario, Oregon, on the west; to Afton, Wyoming, on the east and throughout the state of Idaho. For further information call the center in Idaho Falls, area code 208 523-4682.

BYU-Ogden Center for Continuing Education

The Ogden Center was officially opened August 10, 1957, to provide the people in and near Ogden with some of the advantages enjoyed by those living close to the Brigham Young University campus. The center offers upper-division and graduate courses in most of the academic departments of the University. Informal courses, lectures, seminars, workshops, special programs organized for business, industry, and special groups are also a part of the educational offering. Several Education Day and Education Week programs are held each year.

In 1964 the University Department of Graduate Education authorized the center to offer a program of classes leading to the master's degree, with a major in six areas of instruction.

The center draws its faculty from Brigham Young University and professionally-qualified persons living in the Ogden area. Local instructors are approved by the University administration in the same manner used in employing regular full-time faculty members. Further information may be obtained from the center at 555-24th Street, Ogden, Utah, or by calling 399-4455.

BYU-Salt Lake Center for Continuing Education

On January 1, 1959, the building formerly occupied by the McCune School of Music and Art, 200 North Main, was opened as the third BYU continuing education center. Its program follows the pattern established in other centers. Courses and programs are offered in religion, genealogy, speech, history, recreation, writing, arts, education, and other fields. A nursing program and teacher certification program are presently available at the Salt Lake Center. Special programs are organized for industry, commerce, and Church groups when requested. A forum assembly program was added in the fall of 1959 with noted speakers participating. The Salt Lake Center has also been approved to offer selected courses leading toward the master's degree in education. Several Educa-

tion Week and other programs are offered in the general Salt Lake area. Full information may be obtained by phoning Salt Lake City, 328-0325.

BYU-California Center for Continuing Education

The newest BYU continuing education center was established in 1959 with offices in Los Angeles. The central offices are now located at 203 West Cottage Drive, Covina, California 91722.

This center offers primarily noncredit classes, lectures, and seminars which annually enroll over 35,000 persons. The educational activities are usually held in LDS stake centers, and events are generally cosponsored by LDS stakes and wards. Seventy-one stakes throughout California actively participate in the California Center's activities.

Educational subjects range through religion, family life, behavioral sciences, humanities, arts, genealogy, teaching, and administration. Faculty members are local educators, BYU instructors, and other approved teachers. The center administrators receive suggestions from an advisory council of stake presidents and other groups in developing programs.

In addition to its educational programs, the California Center serves as an information and counseling center for BYU patrons. For further information, phone area code 213 966-4448.

Bachelor of Independent Studies

Brigham Young University offers a special bachelor's degree especially designed for adults. This degree is of particular interest to persons already in various professions and business, housewives, members of the Armed Services, and retired persons. The Bachelor of Independent Studies degree has as its goal the development of the individual in a wide area of intellectual interests. It is not intended to prepare the participants for particular professions or occupations.

The applicant for the degree will be placed in an individual program of independent study. There are four primary study areas, each to be completed as a unit. The four areas are:

- God and Man
- Man and the Arts
- Man and the Universe
- Man and Society

The student studies the prescribed material and curricula outlines and then proves his proficiency by passing prescribed examinations in each area. He is admitted to a three-week summer seminar at BYU after each test and before moving on to the next area of study.

Applications for the degree will be accepted after June 1, 1970. For further information write to Bachelor of Independent Studies Degree Program, 234 HRCB, BYU, Provo, Utah 84601.

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History	De Lamar Jensen
Home Economics Education	Ruth Brasher
Humanities and Comparative Literature	Ralph A. Britsch
Industrial Education	Edwin C. Hincley
Industrial Technology	Ross "J" McArthur
Mathematics	Kenneth L. Hillam
Mechanical Engineering Science	John M. Simonsen
Microbiology	Don H. Larsen
Military Science	Col. David R. Lyon
Music	A. Harold Goodman
Philosophy	C. Terry Warner
Physical Education for Men	Elmo Roundy
Physical Education for Women	Leona Holbrook
Physics and Astronomy	John H. Gardner
Political Science	Ray C. Hillam
Psychology	Kay H. Smith
Recreation Education	William Hafen
Sociology	John R. Christiansen
Spanish and Portuguese	M. Carl Gibson
Speech and Dramatic Arts	Lael J. Woodbury
Statistics	H. Gill Hilton
Youth Leadership	Thane J. Packer
Zoology	Joseph Murphy

COORDINATORS OF AREAS

Biological and Agricultural Education	A. Lester Allen
Asian Studies	Spencer J. Palmer
Genealogy	Norman E. Wright
General Curriculum	Willis M. Banks
International Relations	Ray C. Hillam
Latin-American Studies	Wesley W. Craig, Jr.
Law Enforcement	Charles T. Fletcher
Linguistics	Robert W. Blair
Physical Science	Lane A. Compton
Provisional Registration	Wm. Dale Goodson
European Studies	Melvin P. Mabey

ADMINISTRATIVE OFFICERS, NONINSTRUCTIONAL UNITS

Admissions and Records, Dean	William R. Siddoway
Asst. Dean and Director of Admissions	Robert W. Spencer
Admissions Officer	Orrin H. Jackson
Evaluation Supervisor and Data Analyst	Lucile Spencer
Registrar	Bill Sampson
Registration Officer	Erlend D. Peterson
Director, Admissions Adviser Program	Bruce L. Olsen
Coordinator of Financial Aids	L. Robert Webb
Director of School Relations	Lowell D. Castleton
Alumni Relations, Director	Ronald G. Hyde
Assistant Vice-President for Business	Fred A. Schwendiman
Agricultural Operations, Director	Max Wallentine
Auxiliary Maintenance, Director	R. Sears Hintze
Auxiliary Special Services, Director	Clyde Bair
Bookstore, Manager	Roger Utley
Food Services, Director	Wells Cloward
Housing, Director	Carl Jones
Purchasing Agent	C. R. Peterson
Assistant Purchasing Agent	Roy Boulter
Communications - Assistant to the President	Heber G. Wolsey
Communications Services, Director	Darrel J. Monson
Broadcast Services, Director	Earl J. Glade, Jr.
Educational Media Services, Director	R. Irwin Goodman
Electronic Media, Director	Dean M. Austin
Instructional Research and Development	M. David Merrill
Motion Picture Production, Director	Wetzel O. Whitaker
Photographic Services, Director	James Walker
University Press, Director	Ernest L. Olson
Graphic Communications	McRay Magleby
Publication Sales	Kenneth Trane
University Mail Services	Harold S. Hintze
University Printing Service	Frank Haymore
University Publications, Assistant Chairman	Richard K. Grover
University Relations	Heber G. Wolsey
Information Services	Gary R. Bascom
Campus Tours and Conferences, Chairman	Collin Allan
Office of University Programs, Chairman	James H. Lawrence
Press Relations, Chairman	Edwin J. Butterworth
Program Bureau Coordinator	Jane Thompson
Sports Information Officer	David Schulthess
University Relations Editor	Herbert McLean
Computer Research Center, Director	Gary Carlson
Manager of Operations	Parley Robison
Assistant Director	Willard Gardner
Senior Systems Analyst	Norman Wright
Education Information and Guidance, Director	Lynn Eric Johnson
Financial Services, Director	Lyman Durfee
Assistant to the Director	Richard M. Austin
Director of Accounting and Financial Reports	Joseph C. Rowberry
Financial Aids and Telephone Services	O. Wendle Nielsen
Payroll, Supervisor	MacCene Grimmer
Treasurer	Kiefer B. Sauls
Assistant Treasurer	Ferrin Orton
Auditor	Gaylen Maynes
Institute of American Studies and Research, Director	Paul E. Felt
Research Coordinator	James R. Clark
Institutional Research, Director	L. Howard Campbell
Intercollegiate Athletics, Director	Floyd Millet
Athletic Business Manager	Floyd R. Taylor
Athletic Ticket Office, Manager	David Dredge
Management Consultant	LeRoy Harlow
Physical Plant, Director	Sam Brewster

Maintenance and Operations Section,	
Assistant Director	Harold J. Anderson
Planning Section, Chief	Ephraim Hatch
Construction Section, Engineer	Paul G. Rasmussen
Chief Security Officer	Swen C. Nielsen
Space Utilization, Director	Albert E. Haines
Student Health Center, Director	Cloyd C. Hofheins
Assistant Director	Glen E. Roundy
Students, Dean	J. Elliot Cameron
Assistant Dean of Students	LaVar Rockwood
Dean of Women	Lucile O. Petty
Academic Standards, Chairman	Darrell L. Moses
Counseling Center, Chairman	Vern H. Jensen
International Office, Chairman	Ariel S. Ballif
Student Activities, Director	Lyle S. Curtis
University Standards, Chairman	Gary Carver
Veterans and Selective Service, Adviser	LaVar Rockwood
University Development, Director	David Haight
Assistant Director	Vern Hobson
Special Projects	Clyde E. Weeks
Insurance and Scholarships	Golden Driggs
Annual Giving	Donald T. Nelson
Assistant	Carl Bacon
Assistant	James Craddock
Corporate Gifts	John J. Cunningham
Foundations	Kenneth W. Porter
Minerals	H. Clyde Davis
Deferred Gifts	Rex W. Hardy
Trusts	Kay A. Young
Assistant	Conrad Bryner
Recorder	Robert Rose
Los Angeles Office	Don C. Brown, Jr.
New York Office	F. Charles Graves
University Personnel Services, Director	B. Keith Duffin
Personnel Department	
Benefits Office, Supervisor	Jay Adamson
Employment Department, Supervisor	Don Lyman
Training and Safety Department, Supervisor	Nad Brown
Placement Center, Manager	R. Wayne Hansen
Educational Placement, Supervisor	Karen Pugh
Wilkinson Center, Director	Lyle S. Curtis
Assistant Director in Charge of Programming	F. Curtis Wynder
Business Manager	Jay Eitner

Councils

UNIVERSITY ADMINISTRATIVE COUNCIL

On matters of overall policy the following meet as an administrative council for the purpose of advising the President and resolving mutual problems: Ernest L. Wilkinson, President; Ben E. Lewis, executive vice-president; Clyde D. Sandgren, vice-president and general counsel; Robert K. Thomas, academic vice-president; Robert J. Smith, assistant academic vice-president; Fred A. Schwendiman, assistant vice-president for business affairs; Dean A. Peterson, administrative assistant to the President; Heber G. Wolsey, assistant to the President of University relations; David B. Haight, assistant to the President and director of University development; J. Elliot Cameron, dean of students; William R. Siddoway, dean of admissions and records.

DEANS' COUNCIL

The Deans' Council consists of the Administrative Council, all deans and the directors of schools and divisions, and two faculty representatives.

GRADUATE COUNCIL

The Graduate Council is empowered to act for the graduate faculty on all student petitions and on departmental requests for approval of faculty members for temporary assignments to graduate instruction and supervision. The council initiates proposals for policy and procedure regarding the graduate program.

Faculty

Emeriti

- Beulah Ream Allen** Professor Emeritus of Nursing (1961)
Diploma, Illinois Training School for Nurses, Cook County Hospital, Chicago, Illinois, 1922; B.A., University of Utah, 1928; M.D., University of California, 1932.
- Mildred E. Allred** Associate Professor Emeritus of Nursing (1954)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1925; CPHN, Oregon, 1941; B.S., Brigham Young University, 1943; M.N., University of Washington, 1960.
- Owen L. Barnett** Associate Professor Emeritus of Educational Administration
B.S., M.S., Brigham Young University, 1923, 1927. (1950)
- Clarence S. Boyle** Professor Emeritus of Marketing (1927)
B.S., Brigham Young University, 1924; M.S., Ed.D., New York University, 1926, 1941.
- Faye Buttle** Emeritus Lab School (1951)
B.A., M.Ed., M.A., Brigham Young University, 1927, 1953, 1954.
- Julia Caine** Emeritus Teacher in Laboratory School (1941)
B.A., Brigham Young University; M.A., Colorado State University, 1950.
- Jennie Campbell** Associate Professor Emeritus of Education (1952)
B.S., Brigham Young University, 1928; M.A., Teachers College, Columbia University, 1937.
- Clawson Y. Cannon, Sr.** Professor Emeritus of Animal Science (1956)
B.S., Utah State University, 1913; M.S., Ph.D., Iowa State University, 1924, 1927.
- Monroe H. Clark** Associate Professor Emeritus of Philosophy
of Education and Guidance (1954)
B.A., Columbia University, 1923; M.A., Brigham Young University, 1927.
- Evan M. Croft** Associate Professor Emeritus of Business
Education (1936)
B.S., Brigham Young University, 1929; M.S., University of Southern California, 1940.
- Gerrit de Jong, Jr.** Professor Emeritus of Modern Languages;
Dean Emeritus, College of Fine Arts (1925)
B.A., M.A., University of Utah, 1920, 1925; Ph.D., Stanford University, 1933.
- Naomi Rich Earl** Assistant Professor Emeritus of Library Science (1937)
B.S., Brigham Young University, 1931; Certificate in Library Science, Riverside Service School, 1932.
- J. Orval Ellsworth** Professor Emeritus of Religious Instruction (1954)
B.S., Utah State University, 1917; M.S., Ph.D., Cornell University, 1924, 1926.
- Flora D. Fisher** Assistant Professor Emeritus of Education (1933)
B.S., M.S., Brigham Young University, 1936, 1949.
- Alvah Fitzgerald** Instructor Emeritus in Religious Instruction (1956)
B.S., M.S., Brigham Young University, 1928, 1930.
- Harvey Fletcher** Professor Emeritus of Physics; Dean Emeritus
of College of Physical and Engineering Sciences (1952)
B.S., Brigham Young University, 1907; Ph.D., Chicago University, 1911; hon. Sc.D., Columbia University, 1935; hon. Sc.D., Kenyon College, 1942; hon. Sc.D., Stevens Institute of Technology, 1942; hon. Sc.D., Case School of Applied Sciences, 1942; hon. Sc.D., University of Utah, 1944; hon. Sc.D., Brigham Young University, 1954.
- O. Norman Geertson** Assistant Professor Emeritus of Physics (1941)
B.S., Brigham Young University, 1930; M.S., University of California at Los Angeles, 1951.
- Leroy R. Hafen** Professor Emeritus of History (1954)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1919; Ph.D., University of California, 1924; Litt.D., University of Colorado, 1935.
- Wayne B. Hales** Professor Emeritus of Physics and Mathematics (1930)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1922; Ph.D., California Institute of Technology, 1926.
- May C. Hammond** Assistant Professor Emeritus of Education (1925)
B.S., M.S., Brigham Young University, 1934, 1949.

- George H. Hansen** Professor Emeritus of Geology and Geography (1927)
B.S., Utah State University, 1918; M.S., Ph.D., George Washington College of Law, 1948.
- Anna B. Hart** Emeritus Teacher in Laboratory School (1939)
B.S., Utah State University, 1922; M.A., University of Southern California, 1933; M.Ed., George Peabody College for Teachers, 1949.
- Charles J. Hart** Professor Emeritus of Physical Education (1925)
B.S., Utah State University, 1922; M.A., Ed.D., New York University, 1932, 1945.
- C. Lynn Hayward** Professor Emeritus of Zoology (1930)
B.S., M.S., Brigham Young University, 1927, 1931; Ph.D. University of Illinois, 1941.
- Gustive O. Larsen** Associate Professor Emeritus of History and Religion (1954)
B.A., M.A., University of Utah, 1920, 1926.
- Don L. McConkie** Emeritus Teacher in Laboratory School (1953)
B.S., M.S., Brigham Young University, 1927, 1942.
- Ruth M. MacKay** Instructor Emeritus of English (1962)
B.A., M.A., Brigham Young University, 1960, 1962.
- Florence Jepperson Madsen** Professor Emeritus of Music (1910)
B.M., M.M., Chicago Musical College, 1926, 1927; Doctor of Music, Boguslawski College of Music, 1932; B.A., Brigham Young University, 1934; M.M., hon. Doctor of Music, Chicago College of Music, 1933.
- Franklin Madsen** Professor Emeritus of Music (1920)
B.A., M.A., Brigham Young University, 1925, 1931; B.M., 1926; M.M., 1927; B.M.E., 1928; Mus. Doc., 1929; MME, 1932; hon. Doctor of Music Education, Boguslawski College of Music, 1933; hon. Doctor of Music Education, Chicago College of Music, 1934.
- Georgia Maeser** Assistant Professor Emeritus of Education (1926)
B.S., Brigham Young University, 1928; M.A., Columbia University, 1938.
- J. C. Moffitt** Professor Emeritus of Educational Administration (1953)
B.S., M.S., Brigham Young University, 1926, 1929; Ph.D., University of Chicago, 1940.
- Lawrence Morris** Professor Emeritus of Animal Science (1952)
BSA, University of Arizona 1925; M.S., Texas A&M, 1928; Ph.D., Louisiana State University, 1938.
- Sadie O. Morris** Professor Emeritus of Food and Nutrition (1957)
B.S., M.S., Utah State University, 1921, 1922; Ph.D., Columbia University, 1933.
- Kathryn B. Pardoe** Assistant Professor Emeritus of Speech (1934)
B.A., Brigham Young University, 1934.
- T. Earl Pardoe** Professor Emeritus of Speech (1919)
B.A., Brigham Young University, 1925; M.A., University of Southern California, 1931; Ph.D., Louisiana State University, 1936.
- John W. Payne** Associate Professor Emeritus of Sociology (1947)
B.A., M.A., Brigham Young University, 1936, 1948.
- Hugh W. Peterson** Professor Emeritus of Chemistry (1927)
B.A., M.A., Brigham Young University, 1916, 1928; Ph.D., State University of Iowa, 1936.
- J. Wyley Sessions** Professor Emeritus of Religious Philosophy (1939)
B.S., Utah State University, 1911; M.A., University of Idaho, 1928.
- Sidney B. Sperry** Professor Emeritus of Old Testament Languages and Literature (1932)
B.A., University of Utah, 1917; M.A., Ph.D., University of Chicago, 1926, 1931.
- Margaret Summerhays** Assistant Professor Emeritus of Music (1927)
Graduate, New England Conservatory of Music, 1916; B.A., Brigham Young University, 1936.
- Orea B. Tanner** Associate Professor Emeritus of English (1938)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1953.
- Vasco M. Tanner** Professor Emeritus of Zoology (1925)
B.A., Brigham Young University, 1915; M.A., University of Utah, 1920; Ph.D., Stanford University, 1925.
- Josephine C. Taylor** Instructor Emeritus in Library Science (1960)
B.A., Brigham Young University, 1959; M.A., University of Southern California, 1960.
- L. Elliott Tuttle** Associate Professor Emeritus of Geography (1936)
B.S., M.S., Brigham Young University, 1938, 1948.
- J. Homer Wakefield** Assistant Professor Emeritus of Music (1949)
B.S., M.S., M.A., Brigham Young University, 1924, 1933, 1950.
- Louise Young** Emeritus Teacher in Laboratory School (1964)
B.S., University of Utah, 1926.

Members of the Instructional and Administrative Staff

- Melvin H. Aamodt** Assistant Professor of Geography (1965)
B.A., Brigham Young University, 1958; M.A., University of Wisconsin, 1960; Ph.D., Indiana University, 1968.
- Jesse Loraine Adams** Instructor in Sociology (1967)
B.S., M.S., Brigham Young University, 1965, 1966.
- George M. Addy** Professor of History (1957)
B.A., M.A., Brigham Young University, 1948, 1950; Ph.D., Duke University, 1957.
- Lorna Call Alder** Assistant Professor of Art Education (1949)
B.S., Brigham Young University, 1935; M.A., Columbia University, 1940.
- Zane G. Alder** Assistant Professor of English (1955)
B.S., M.S., Utah State University, 1948, 1956.
- Captain Daniel P. Aldridge** Assistant Professor of Military Science (1969)
B.S., Brigham Young University, 1962.
- Thomas Glen Alexander** Associate Professor of History (1964)
B.S., M.S., Utah State University, 1960, 1961; Ph.D., University of California (Berkeley), 1965.
- A. Lester Allen** Professor of Zoology; Dean of the College of Biological and Agricultural Sciences (1954)
B.A., Ph.D., University of California at Los Angeles, 1946, 1951.
- Dell K. Allen** Assistant Professor of Industrial Technology (1960)
B.S., Utah State University, 1954; M.S., Brigham Young University, 1966.
- James B. Allen** Associate Professor of History (1963)
B.S., Utah State University, 1954; M.A., Brigham Young University, 1956; Ph.D., University of Southern California, 1963.
- James Vincent Allen** Electron Microscope Technician, Botany (1969)
B.S. Brigham Young University.
- Mark K. Allen** Professor of Psychology (1946)
B.A., Brigham Young University, 1926; M.A., Ph.D., Stanford University, 1935, 1955.
- Murray F. Allen** Assistant Professor of Art (1969)
B.S., University of Utah, 1947; M.A., Brigham Young University, 1958.
- Phyllis Allen** Instructor of Environmental Design (1961)
B.A., University of California at Berkeley.
- Sandra B. Allen** Instructor in Physical Education (1969)
BFA, MFA, University of Utah, 1964, 1967.
- Stephen L. Alley** Professor of Educational Philosophy; Dean of the College of Education (1956)
B.S., M.S., University of Utah, 1947, 1951; Ed.D., Harvard University, 1958.
- Verl P. Allman** Assistant Professor, General Curriculum (1950)
B.S., M.S., Brigham Young University, 1948, 1952.
- Grace H. Allphin** Instructor in Library Science (1956)
B.A., University of Utah, 1931; Certificate in Library Science, Brigham Young University, 1956.
- Dorald M. Allred** Professor of Zoology (1956)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Utah, 1954.
- G. Hugh Allred** Associate Professor of Child Development and Family Relationships (1966)
B.A., M.A., Brigham Young University, 1957, 1960; Ed.D., University of Oregon, 1966.
- R. Chase Allred** Professor of Agronomy (1955)
B.S. Brigham Young University, 1948; M.S., Kansas State College, 1949; Ph.D., University of Nebraska, 1952.
- Ruel A. Allred** Associate Professor of Education (1961)
B.S., M.S., Brigham Young University, 1954, 1958; Ed.D., University of Oregon, 1965.
- Wallace Allred** Instructor in Education (1956)
B.S., M.Ed., Brigham Young University, 1956, 1957; M.S., Oregon State University, 1964.
- Philip E. Allsen** Associate Professor of Physical Education for Men (1966)
B.S., Ricks College, 1955; M.S., Brigham Young University, 1960; Ed.D., University of Utah, 1965.
- Mignon Alward** Instructor in Nursing (1953)
B.S., University of Utah, 1946.
- Ferron Lee Andersen** Associate Professor of Zoology (1966)
B.S., M.S., Utah State University, 1957, 1960; M.S., University of Illinois, 1962; Ph.D., Utah State University, 1963.

- H. Verlan Andersen** Professor of Accounting (1965)
B.S., Brigham Young University, 1940; J.D., Stanford University, 1946; LL.M., Harvard University, 1948.
- William Ralph Andersen** Associate Professor of Botany (1966)
B.S., M.S., Utah State University, 1956, 1958; Ph.D., University of California, 1963.
- Wilson K. Andersen** Assistant Professor of Religious Instruction (1962)
B.S., University of Utah, 1949; M.Ed., Brigham Young University, 1957.
- C. Dixon Anderson** Associate Professor of Spanish (1956)
B.A., Brigham Young University, 1953; M.A., Ph.D., University of Texas, 1956, 1965.
- Dallas Jasper Anderson** Instructor in Art (1967)
B.A., St. Olaf College, 1956; M.A. (Avgangs Bevis), Danish Royal Academy of Fine Arts, 1967.
- Enid R. Anderson** Clinical Instructor in Education (1968)
B.S., Utah State University, 1951; M.A., Denver University, 1956.
- Keith P. Anderson** Professor of Chemistry (1953)
B.A., Brigham Young University, 1946; Ph.D., Cornell University, 1950.
- Richard Lloyd Anderson** Professor of History and Religious Instruction (1955)
B.A., M.A., Brigham Young University, 1951, 1957; J.D., Harvard Law School, 1954; Ph.D., University of California, 1962.
- Hyrum L. Andrus** Professor of Scripture (1956)
B.S., Ricks College, 1951; M.S., Brigham Young University, 1952; D.S.S., Syracuse University, 1955.
- J. Roman Andrus** Professor of Art and Education (1942)
B.S., M.S., Brigham Young University, 1942, 1943; Ed.D., University of Colorado, 1958; Art Students League, L. A. Art Institute.
- Chris J. Apostol** Instructor in Physical Education (1959)
B.A., Utah State University, 1950.
- M. Rex Arnett** Instructor in Education (1962)
B.A., M.A., Brigham Young University, 1961, 1966.
- Marilyn Arnold** Assistant Professor of English (1969)
B.A., M.A., Brigham Young University, 1957, 1958; Ph.D., University of Wisconsin, 1968.
- Larry M. Arnoldsen** Instructor in Education (1969)
B.S., Brigham Young University, 1960; M.A., California State Polytechnic College, 1965.
- Carlos E. Asay** Professor of Education (1969)
B.S., Ed.D., University of Utah, 1953, 1967; M.A., Long Beach State College, 1958.
- Marilyn J. Asay** Instructor in Nursing (1969)
B.S., University of Wyoming, 1967; M.S., University of Utah, 1969.
- Nadine T. Ashby** Instructor in Business Education (1960)
B.A., Brigham Young University, 1936; M.A., Colorado State College, 1959.
- Josette B. Ashford** Special Instructor in French and Italian (1969)
B.A., Brigham Young University, 1967.
- Clarence D. Ashton** Associate Professor of Horticulture (1951)
B.S., Brigham Young University, 1929.
- Peter Peay Ashworth** Assistant Professor of Spanish (1966)
B.A., Brigham Young University, 1962; Ph.D., University of Oklahoma, 1967.
- Hyrum J. Babcock** Associate Professor of Elementary Education (1954)
B.A., M.A., Ph.D., University of California, 1939, 1940, 1953.
- Milton V. Backman, Jr.** Associate Professor of History of Religion (1960)
B.S., M.A., University of Utah, 1954, 1955; Ph.D., University of Pennsylvania, 1959.
- James Logan Baer** Assistant Professor of Geology (1969)
B.S., Ohio State University, 1957; M.S., Ph.D., Brigham Young University, 1962, 1968.
- J. Hugh Baird** Associate Professor of Education (1963)
B.S., M.S., University of Utah, 1954, 1954; Ed.D., University of California at Berkeley, 1962.
- Rey L. Baird** Assistant Professor of Linguistics (1961)
B.A., University of Utah, 1960; M.A., Brigham Young University, 1962.
- Joseph O. Baker** Assistant Professor of German (1967)
B.A., University of Utah, 1964; Ph.D., Tulane University, 1968.
- VerDon W. Ballantyne** Instructor in English (1963)
B.S., M.A., Brigham Young University, 1961, 1964.
- Ariel S. Ballif** Professor of Sociology; Foreign-Student Adviser (1938)
B.S., Brigham Young University, 1925; M.A., Ph.D., University of Southern California, 1937, 1945.

- Jae R. Ballif** Associate Professor of Physics (1962)
B.S., Brigham Young University, 1953; M.A., Ph.D., University of California at Los Angeles, 1961, 1962.
- Richard Ballou** Assistant Professor of Music (1951)
B.A., M.A., Brigham Young University, 1948, 1953.
- Blauer L. Bangerter** Professor of Physical Education (1953)
B.A., Brigham Young University, 1951; M.S., Ph.D., University of Utah, 1955, 1964.
- Reid E. Bankhead** Associate Professor of Religious Instruction (1949)
B.S., University of Utah, 1947; M.Th., Brigham Young University, 1949.
- Willis M. Banks** Instructor in General Curriculum (1966)
B.S., Brigham Young University, 1948; M.S., Colorado College, 1967.
- Dee H. Barker** Professor of Chemical Engineering (1959)
B.S., Ph.D., University of Utah, 1948, 1951.
- Frances P. Barlow** Assistant Professor of Child Development and Family Relationships (1954)
B.S., University of Utah, 1933; M.Ed., Utah State University, 1938.
- Clifford R. Barnes** Associate Professor of Music (1968)
B.S., Glendale College, 1947; M.A., Ph.D., University of Southern California, 1957, 1965.
- Howard W. Barnes** Associate Professor of Business Management (1964)
A.B., Harvard College, 1955; MBA, University of Southern California, 1963; Dr. rer. pol., Technische Universität Braunschweig, 1968.
- James R. Barnes** Assistant Professor of Zoology (1969)
B.S., Brigham Young University, 1963; M.S., Oregon State University, 1967.
- J. Dean Barnett** Professor of Physics (1958)
B.A. University of Utah, 1954; Ph.D., University of Utah, 1959.
- Ivan J. Barrett** Associate Professor of Religious Instruction (1953)
B.S., Utah State University, 1938; M.S., Brigham Young University, 1947.
- Howard H. Barron** Professor of Religious Instruction (1953)
B.S., M.S., Utah State University, 1943, 1950; Ed.D., University of Utah, 1953.
- George S. Barrus** Associate Professor of Communications (1967)
B.S., University of Utah, 1950; M.A., Brigham Young University, 1964; Ph.D., University of Iowa, 1970.
- Wallace M. Barrus** Assistant Professor of Communications (1969)
B.S., Brigham Young University, 1964; MFA, Utah State University, 1969.
- Cliff S. Barton** Professor of Civil Engineering (1959)
B.S., Utah State University, 1947; M.S., Ph.D., Rensselaer Polytechnic Institute, 1953, 1959.
- James R. Barton** Professor of Civil Engineering (1967)
B.S., University of New Mexico, 1944; M.S., University of Colorado, 1946; Ph.D., Colorado State University, 1958; Registered Engineer, Utah, 1949.
- Beth S. Bastian** Assistant Professor of Family Economics and Home Management (1964)
B.S., Utah State University, 1950; M.S., Kansas State College, 1955.
- J. LaVar Bateman** Professor of Speech (1949)
B.A., Brigham Young University, 1941; M.S., Ph.D., University of Wisconsin, 1947, 1950.
- Merrill J. Bateman** Associate Professor of Economics (1967)
B.S., University of Utah, 1960; Ph.D., Massachusetts Institute of Technology, 1965.
- Edith Bartholomew Bauer** Professor of Educational Psychology (1945)
B.A., M.A., Brigham Young University, 1930, 1946; Ph.D., University of California (Berkeley), 1956.
- Milo Ray Baughman** Assistant Professor of Environmental Design (1969)
- Jay V. Beck** Professor of Microbiology (1951)
B.A., M.A., Brigham Young University, 1933, 1936; Ph.D., University of California (Berkeley), 1940.
- Elouise M. Bell** Instructor in English (1963)
B.A., University of Arizona, 1957; M.A., Brigham Young University, 1959.
- R. Dermont Bell** Professor of Business Education (1957)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of Southern California, 1960.
- Parley L. Belnap** Assistant Professor of Music (1965)
B.A., M.A., Brigham Young University, 1950, 1956; Premier Prix, Royal Flemish Conservatory, Belgium, 1960; Diplome Supérieur, Royal Flemish Conservatory, Belgium, 1964.

- W. Dwayne Belt** Professor of Secondary Education (1961)
B.A., Brigham Young University, 1952; M.A., Ed.D., Colorado State College, 1958, 1961.
- George C. Bennion** Instructor in English (1961)
B.A., Brigham Young University, 1949.
- Marion Bennion** Professor of Food Science and Nutrition (1952)
B.S., Utah State University, 1947; M.S., Teachers College, Columbia University, 1949; Ph.D., University of Wisconsin, 1956.
- Owen C. Bennion** Instructor in General Curriculum (1963)
B.S., Brigham Young University, 1955; M.S., University of Utah, 1960.
- Robert C. Bennion** Associate Professor of Psychology (1961)
B.A., Brigham Young University, 1956; M.A., Ph.D., Ohio State University, 1959, 1961.
- Anthony I. Bentley, Jr.** Assistant Professor of Religious Instruction (1954)
B.A., Brigham Young University, 1930; M.A., University of Southern California, 1941.
- Dale L. Berge** Assistant Professor of Anthropology and Archaeology (1967)
B.S., M.A., Brigham Young University, 1961, 1964; M.A., Ph.D., University of Arizona, 1967, 1968.
- LaMar C. Berrett** Associate Professor of Religious Instruction (1963)
B.S., University of Utah, 1952; M.S., Ed.D., Brigham Young University, 1960, 1963.
- Paul O. Berrett** Associate Professor of Electrical Engineering (1964)
B.S., University of Utah, 1953; M.S., University of Southern California, 1955; Ph.D., University of Utah, 1965.
- Max J. Berryessa** Professor of Elementary Education (1948)
B.S., M.S., Brigham Young University, 1948, 1949; Ed.D., Stanford University, 1959.
- Brian S. Best** Assistant Professor of English (1960)
B.S., M.A., Brigham Young University, 1958, 1962.
- Larry Grant Best** Instructor in English (1965)
B.A., M.A., Brigham Young University, 1963, 1966.
- Myron G. Best** Associate Professor of Geology (1965)
B.S., University of Utah, 1957; Ph.D., University of California at Berkeley, 1961.
- Rollie Ray Bestor** Assistant Professor of Physical Education (1969)
B.S., M.S., University of Wisconsin, 1954, 1958; Ed.D., Brigham Young University, 1969.
- Constance Jeanne Bethers** Assistant Professor of Nursing (1966)
M.Ed., Columbia University, 1965.
- Gary Boyd Beus** Assistant Professor of Statistics (1967)
B.A., Brigham Young University, 1962; M.S., Ph.D., Virginia Polytechnic Institute, 1965, 1968.
- James L. Bills** Associate Professor of Chemistry (1962)
B.S., University of Utah, 1958; Ph.D., Massachusetts Institute of Technology, 1963.
- Donna Bird** Instructor in Home Economics Education (1966)
B.S., Brigham Young University, 1959; M.A., California State College at Long Beach, 1966.
- Russell Harold Bishop** Associate Professor of Education (1966)
B.A., M.A., University of Utah, 1954, 1964; Ph.D., University of Oregon, 1966.
- Harold J. Bissell** Professor of Geology (1938)
B.S., Brigham Young University, 1934; M.S., Ph.D., University of Iowa, 1936, 1948.
- Angus U. Blackham** Professor of Chemistry (1952)
B.A., Brigham Young University, 1949; M.A., Ph.D., University of Cincinnati, 1950, 1952.
- Robert W. Blair** Associate Professor of Linguistics (1959)
B.A., M.A., Brigham Young University, 1955, 1957; Ph.D., Indiana University, 1964.
- Reed H. Blake** Assistant Professor of Sociology (1967)
B.S., M.S., Brigham Young University, 1957, 1959; Ph.D., Utah State University, 1968.
- Mae Blanch** Assistant Professor of English (1958)
B.A., Brigham Young University, 1950; Ph.D., University of Colorado, 1966.
- Vestal Ben Bloxham** Instructor in Genealogy (1967)
B.S., Brigham Young University, 1965.
- Walter D. Bowen** Associate Professor of Religious Instruction (1964)
B.S., M.S., Ed.D., Brigham Young University, 1957, 1958, 1965.
- Catherine Bowles** Clinical Instructor in Education (1960)
B.S., M.Ed., Brigham Young University, 1936, 1953.
- Lawrence S. Bowman** Associate Professor of Electrical Engineering (1967)
B.S., M.S., Ph.D., University of Utah, 1957, 1961, 1964.

- Glen L. Boyer** Instructor in Business Education (1967)
B.S., Utah State University, 1963; M.S., University of North Dakota, 1966.
- Joyce Boyle** Instructor in Food Science and Nutrition (1969)
B.S., Brigham Young University, 1966; M.S., Iowa State University, 1969.
- James W. Brackner** Instructor in Accounting (1969)
B.S., M.S., Brigham Young University, 1961, 1962; CPA, California, 1965.
- Reed H. Bradford** Professor of Sociology (1946)
B.A., Brigham Young University, 1937; M.A., Louisiana State University, 1939;
M.A., Ph.D., Harvard University, 1941, 1946.
- Rulon L. Bradley** Professor of Communications (1965)
B.A., Brigham Young University, 1947; M.S., Ph.D., University of Utah, 1954, 1962.
- Jerald S. Bradshaw** Associate Professor of Chemistry (1966)
B.S., University of Utah, 1955; Ph.D., University of California at Los Angeles, 1963.
- Merrill K. Bradshaw** Associate Professor of Music (1957)
B.A., M.A., Brigham Young University, 1954, 1955; M.Mus., University of Illinois, 1956; D.Mus.A., University of Illinois, 1962.
- Willard H. Bradshaw** Associate Professor of Microbiology (1961)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of California (Berkeley), 1957.
- William S. Bradshaw** Assistant Professor of Zoology (1970)
B.A., Harvard University, 1961; Ph.D., University of Illinois, 1968.
- Marion B. Brady** Associate Professor of English (1965)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Utah, 1966.
- Lee F. Braithwaite** Assistant Professor of Zoology (1962)
B.S., M.S., Brigham Young University, 1959, 1962.
- Ruth E. Brasher** Associate Professor of Home Economics Education (1969)
B.S., Brigham Young University, 1951; M.A., University of Maryland, 1959; Ph.D., Utah State University, 1969.
- Floyd E. Breinholt** Associate Professor of Art (1961)
B.S., M.E., Brigham Young University, 1937, 1953.
- Willis H. Brimhall** Associate Professor of Geology (1956)
B.S., Brigham Young University, 1949; M.S., University of Arizona, 1951; B.S., Brigham Young University, 1960; Ph.D., Rice University, 1966.
- Merlin B. Brinkerhoff** Assistant Professor of Sociology (1968)
B.A., M.S., Brigham Young University, 1964, 1965; Ph.D., University of Washington, 1968.
- Ralph A. Britsch** Professor of Humanities and Comparative Literature (1938)
B.A., M.A., Brigham Young University, 1933, 1951.
- Ralph Lanier Britsch** Assistant Professor of History (1966)
B.A., M.A., Brigham Young University, 1963, 1964; Ph.D., Claremont Graduate School, 1968.
- Todd Adam Britsch** Assistant Professor of German and Humanities (1966)
B.A., Brigham Young University, 1962; M.A., Ph.D., Florida State University, 1964, 1966.
- H. Smith Broadbent** Professor of Chemistry (1946)
B.S., Brigham Young University, 1942; Ph.D., Iowa State University, 1946.
- Bruce L. Brown** Assistant Professor of Psychology (1968)
B.S., M.S., Brigham Young University, 1965, 1967; Ph.D., McGill University, 1969.
- J. Richard Brown** Assistant Professor of Elementary Education (1956)
B.S., M.Ed., Brigham Young University, 1949, 1956.
- Jack V. Brown** Assistant Professor of Spanish (1964)
B.A., M.A., Brigham Young University, 1957, 1960.
- Kay Fredrick Brown** Assistant Professor of Electronics Engineering Technology (1967)
B.S., M.S., University of California (Los Angeles), 1959, 1964.
- Thomas H. Brown** Professor of French (1959)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Illinois, 1957, 1960.
- Carol W. Brumfield** Instructor in Nursing (1962)
B.S., Brigham Young University, 1956.
- Ann Bruton** Assistant Professor of Associate-Degree Nursing; Director of Associate-Degree Nursing Program (1966)
- A/IC Garth O. Bryant** Instructor in Aerospace Studies (1964)
B.S., University of Utah, 1960; M.A., New York University, 1966.

- Loren C. Bryner** Professor of Chemistry (1935)
B.S., M.S., Brigham Young University, 1928, 1930; Ph.D., Iowa State University, 1934.
- Maurine F. Bryner** Instructor in Food Science and Nutrition (1957)
B.S., Brigham Young University, 1928.
- Captain Dean T. Buckner** Assistant Professor of Aerospace Studies (1969)
B.A., Brigham Young University, 1965.
- Doyle W. Buckwalter** Assistant Professor of Political Science (1964)
B.A., M.A., Brigham Young University, 1963, 1964; Ph.D., University of Michigan, 1968.
- Harold S. Budge** Instructor in Psychology (1960)
B.S., M.S., Utah State University, 1958, 1960.
- Wallace Don Budge** Associate Professor of Civil Engineering (1964)
B.S., M.S., Utah State University, 1959, 1961; Ph.D., University of Colorado, 1964.
- Kenneth C. Bullock** Professor of Geology (1943)
B.S., M.A., Brigham Young University, 1940, 1942; Ph.D., University of Wisconsin, 1949.
- Gary L. Bunker** Associate Professor of Psychology (1969)
B.A., M.A., Brigham Young University, 1960, 1961; Ph.D., University of California at Berkeley, 1966.
- Merrill K. Bunker** Instructor in Economics (1968)
B.A., Brigham Young University, 1965; MBA, University of California at Berkeley, 1967.
- Robert E. Bunker** Instructor in Physical Education (1949)
B.S., Utah State University, 1937.
- Owen Robert Burgener** Assistant Professor of Health Sciences (1964)
B.S., Utah State University, 1953; MPH, University of California (Berkeley), 1964.
- M. Dallas Burnett** Associate Professor of Communications (1958)
B.S., Brigham Young University, 1954; M.S.J., Ph.D., Northwestern University, 1958, 1967.
- Wesley Burnside** Assistant Professor of Art (1958)
B.S., M.S., Brigham Young University, 1941, 1949.
- Wesley R. Burr** Assistant Professor of Child Development
and Family Relationships (1961)
B.S., M.S., Brigham Young University, 1960, 1961; Ph.D., University of Minnesota, 1967.
- Percy E. Burrup** Professor of Educational Administration (1952)
B.S., M.S., Utah State University, 1932, 1941; Ed.D., Colorado State College of Education, 1951.
- Robert C. Burton** Associate Professor of Mathematics (1964)
B.S., Brigham Young University, 1956; Ph.D., University of North Carolina, 1963.
- Sheril Dale Burton** Associate Professor of Microbiology (1967)
B.S., M.S., Brigham Young University, 1959, 1961; Ph.D., Oregon State University, 1964.
- Jess R. Bushman** Associate Professor of Geology (1955)
B.A., Brigham Young University, 1949; Ph.D., Princeton University, 1959.
- Richard L. Bushman** Associate Professor of History (1960)
B.A., Ph.D., Harvard University, 1955, 1961.
- Eliot A. Butler** Professor of Chemistry (1956)
B.S., Ph.D., California Institute of Technology, 1952, 1956.
- Jay W. Butler** Assistant Professor of Religious Instruction (1967)
B.A., Harvard University, 1962; LL.B., Columbia University, 1966.
- Edwin J. Butterworth** Assistant Professor of Journalism (1949)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1954.
- Glen H. Calder** Assistant Professor of Civil Engineering (1955)
B.S., M.S., Utah State University, 1952, 1953; Registered Surveyor, 1956.
- Rose Eyryng Calder** Associate Professor of English (1964)
B.A., Brigham Young University, 1932; M.A., Columbia University, 1936; Ph.D., University of California, 1964.
- Ara Om Call** Assistant Professor of Food Science and Nutrition (1965)
B.S., Iowa State University, 1933; M.S., University of Wisconsin, 1944.
- C. Boyd Call** Associate Professor of Physical Education (1960)
B.S., University of Utah, 1950; Physical Therapy Certificate from Children's Hospital in Los Angeles, 1953; M.S., Brigham Young University, 1963; Ph.D., University of Oregon, 1967.

- Ivan T. Call** Associate Professor of Business Management;
Chairman of Department of Business Management (1963)
B.S., Brigham Young University, 1958; MBA, Indiana University, 1959; DBA, Indiana University, 1969.
- Sterling G. Callahan** Professor of Secondary Education (1953)
B.A., Brigham Young University, 1937; M.A., George Washington University, 1947;
Ed.D., University of Virginia, 1953.
- James B. Cameron** Associate Professor of Accounting (1969)
B.S., University of Utah, 1956; MBA, University of California at Los Angeles, 1958;
CPA, Idaho, 1960; Ph.D., Montana State University, 1967.
- J. Elliot Cameron** Professor of Education; Dean of Students (1962)
B.S., M.S., Ed.D., Brigham Young University, 1949, 1949, 1966.
- Eugene E. Campbell** Professor of History (1956)
B.A., M.A., University of Utah, 1939, 1940; Ph.D., University of Southern California, 1952.
- L. Howard Campbell** Assistant Professor and Director of Institutional
B.S., MBA, University of Utah, 1955, 1957. Research (1962)
- Milo K. Campbell** Instructor in Education (1966)
B.A., M.Ed., Brigham Young University, 1961, 1966.
- Clawson Y. Cannon, Jr.** Professor of Music; Assistant Dean,
College of Fine Arts and Communications (1949)
B.M., Eastman School of Music, University of Rochester, 1948; Diploma, Konservatorium Zurich, 1953; B.A., M.A., Brigham Young University, 1954, 1955.
- John N. Cannon** Professor of Mechanical Engineering (1957)
BSME, M.S., University of Utah, 1952, 1955; Ph.D., Stanford University, 1965;
Registered Professional Engineer, Utah, 1958.
- Kenneth L. Cannon** Professor of Child Development and Family
Relationships (1956)
B.S., Brigham Young University, 1935; M.S., Ph.D., Iowa State College, 1948, 1954.
- Willard R. Card** Assistant Professor of Education (1967)
B.S., University of Utah, 1957; M.A., San Jose State College, 1964.
- Louis B. Cardon** Associate Professor of History (1960)
B.A., University of Arizona, 1950; M.A., Ph.D., University of California (Berkeley), 1957, 1965.
- June Carlisle** Clinical Instructor in Education (1956)
B.S., M.S., Brigham Young University, 1958, 1960.
- Gary Carlson** Director of Computer Center; Professor of
Computer Science (1963)
B.A., M.A., Ph.D., University of California at Los Angeles, 1956, 1958, 1962.
- Melvin W. Carter** Professor of Statistics (1961)
B.S., Arizona State College, 1953; M.S., Ph.D., North Carolina State College, 1954, 1956.
- Gordon C. Casper** Instructor in Library Science (1968)
B.A., Brigham Young University, 1964; MLS, Brigham Young University, 1969.
- Beverly Chaffin** Instructor in Associate Degree in Nursing (1969)
B.S., M.S., University of Utah, 1965, 1969.
- Sally Ann Chalmers** Instructor in Nursing (1968)
B.S., Brigham Young University, 1965.
- Diane Chamberlain** Instructor in Physical Education (1969)
B.A., California State College at Los Angeles, 1966; M.S., Brigham Young University, 1969.
- Arthur O. Chapman** Professor of Zoology (1959)
B.A., Brigham Young University, 1941; M.A., University of Kansas, 1949; Ph.D., University of Nebraska, 1953.
- Kenneth W. Chase** Assistant Professor of Mechanical Engineering (1968)
BES, M.S., Brigham Young University, 1962, 1964.
- A. Norton Chaston** Associate Professor of Electrical Engineering (1957)
B.S., University of Utah, 1951; M.S., Brigham Young University, 1963.
- Louis J. Chatterly** Instructor in General Curriculum (1962)
B.S., Brigham Young University, 1955; M.S., University of Utah, 1962.
- Paul Robert Cheesman** Assistant Professor of Religious Instruction (1966)
B.A., San Diego State College, 1944; MRE, DRE, Brigham Young University, 1965, 1967.
- Thomas E. Cheney** Professor of English (1945)
B.S., Utah State University, 1930; M.A., University of Idaho, 1936.

- Da Tse Chi** Assistant Professor of Chinese (1969)
B.A., University of Communication, Peking, 1937; M.A., University of Peking, 1942.
- Margaret Potter Childs** Assistant Professor of Clothing and Textiles (1946)
B.S., Brigham Young University, 1939; M.S., Oregon State College, 1949.
- George R. Chournos** Counselor in Student Personnel
Counseling Center (1969)
B.S., Brigham Young University, 1959; M.S., Ed.D., Utah State University, 1962, 1969.
- Carl H. Christensen** Instructor in Business Management (1965)
B.S., University of Utah, 1960; MBA, Harvard University, 1963.
- Dean C. Christensen** Professor of Education (1957)
B.S., M.S., Utah State University, 1938, 1948; Ed.D., University of Oregon, 1957.
- Earl M. Christensen** Professor of Botany (1949)
B.S., M.S., University of Utah, 1947, 1949; Ph.D., University of Wisconsin, 1954.
- Edward L. Christensen** Professor of Business Management (1953)
B.S., M.S., Ph.D., University of Utah, 1938, 1939, 1953.
- James J. Christensen** Professor of Chemical Engineering (1957)
B.S., M.S., University of Utah, 1953, 1956; Ph.D., Carnegie Institute of Technology, 1957.
- Howard B. Christensen** Assistant Professor of Statistics (1967)
B.S., Brigham Young University, 1964; M.S., North Carolina State University, 1966.
- Ross T. Christensen** Professor of Archaeology and Anthropology (1952)
B.A., M.A., Brigham Young University, 1943, 1947; Ph.D., University of Arizona, 1956.
- Henry N. Christiansen** Associate Professor of Civil Engineering (1965)
B.S., Utah State University, 1957; M.S., Ph.D., Stanford University, 1958, 1962.
- John R. Christiansen** Professor of Sociology (1957)
B.S., M.S., Utah State University, 1949, 1952; Ph.D., University of Wisconsin, 1955.
- Bruce B. Clark** Professor of English; Dean of the College of
Humanities (1950)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Utah, 1951.
- Dwight P. Clark** Associate Professor of Chemical Engineering (1964)
B.S., University of Utah, 1960; Ph.D., Oregon State University, 1965.
- Harold Glen Clark** Professor of Education; Dean of Continuing
Education (1946)
B.S., Brigham Young University, 1928; M.S., University of Southern California, 1934; Ed.D., George Washington University, 1942.
- H. Clifford Clark** Associate Professor of Education (1969)
B.S., Ed.D., Brigham Young University, 1954, 1963; M.A., Los Angeles State College, 1957.
- Hazel C. Clark** Clinical Instructor in Education (1952)
B.S., University of Utah, 1938; M.S., Brigham Young University, 1957.
- Hoover W. Clark** Associate Professor of French (1964)
B.A., M.A., Brigham Young University, 1954, 1958; Ph.D., Syracuse University, 1964.
- J. Reuben Clark, III** Professor of French and Classical Languages (1941)
B.A., University of Utah, 1934.
- James R. Clark** Professor of Religious Instruction (1938)
B.A., M.A., Brigham Young University, 1936, 1944; Ed.D., Utah State University, 1958.
- Marden J. Clark** Professor of English (1949)
B.A., M.A., Brigham Young University, 1948, 1949; Ph.D., University of Washington, 1957.
- Wayne W. Clark** Professor of Economics (1962)
B.A., Brigham Young University, 1952; Ph.D., Texas A&M University, 1960.
- Welsford Clark** Clinical Instructor in Education (1956)
B.S., M.Ed., Brigham Young University, 1956, 1962.
- Alva John Clarke** Professor of Education (1938)
B.S., M.S., Brigham Young University, 1938, 1942; Ed.D., Colorado University, 1950.
- John C. Clegg** Professor of Electrical Engineering (1961)
B.S., M.S., Ph.D., University of Utah, 1949, 1954, 1957.
- Morris M. Clinger** Associate Professor of Speech (1936)
B.A., M.A., Brigham Young University, 1932, 1946; Ph.D., University of Minnesota, 1963.
- Coran L. Cluff** Associate Professor of Chemistry (1960)
B.S., Arizona State University, 1952; M.S., Ph.D., University of Michigan, 1955, 1960.
- Ralph Lee Coates** Associate Professor of Chemical Engineering (1967)
B.S., Ph.D., University of Utah, 1959, 1962.

- Lane A. Compton** Professor of Physical Science Education (1953)
B.S., M.S., Ed.D., University of Utah, 1943, 1951, 1955.
- Merlin D. Compton** Professor of Spanish (1964)
B.A., M.A., Brigham Young University, 1952, 1954; Ph.D., University of California at Los Angeles, 1959.
- Spencer J. Condie** Associate Professor of Sociology (1969)
B.A., Brigham Young University, 1964; M.A., University of Utah, 1965; Ph.D., University of Pittsburgh, 1969.
- Alan D. Cook** Assistant Professor of Religious Instruction (1962)
B.A., M.A., Brigham Young University, 1954, 1958.
- Leslie Muir Cooper** Associate Professor of Psychology (1966)
B.S., M.S., Brigham Young University, 1954, 1955; Ph.D., University of Illinois, 1962.
- Ivan L. Corbridge** Professor of Agricultural Economics (1952)
B.A., Utah State University, 1946; M.S., University of Chicago, 1948; Ph.D., Washington State College, 1952.
- Keith M. Cottam** Instructor in Library Science (1967)
B.S., Utah State University, 1963; MSLIS, Pratt Institute, 1965.
- Milford C. Cottrell** Associate Professor of Secondary Education (1964)
B.A., University of Wyoming, 1948; M.S., Ed.D., Brigham Young University, 1956, 1961.
- John M. R. Covey** Assistant Professor of Business Management (1966)
B.A., University of Utah, 1959; MBA, Harvard University, 1962.
- Stephen R. Covey** Assistant Professor of Business Management (1957)
B.S., University of Utah, 1953; MBA, Harvard Graduate School of Business Administration, 1957.
- Richard O. Cowan** Associate Professor of History of Religion (1961)
B.A., Occidental College, 1958; M.A., Ph.D., Stanford University, 1959, 1961.
- Major James H. Cowles** Assistant Professor of Military Science (1968)
B.S., U.S. Military Academy, 1962.
- Charles M. Cox** Instructor in Business Management (1965)
B.S., Brigham Young University, 1955; MBA, Harvard University, 1961.
- Soren F. Cox** Associate Professor of English (1955)
B.A., M.A., Brigham Young University, 1952, 1956; Ph.D., University of Minnesota, 1964.
- Richard H. Cracroft** Assistant Professor of English (1963)
B.A., M.A., University of Utah, 1961, 1963; Ph.D., University of Wisconsin, 1970.
- Marshall R. Craig** Assistant Professor of English (1953)
B.S., Brigham Young University, 1941; M.A., Ph.D., Columbia University, 1947, 1968.
- Wesley W. Craig** Associate Professor of Sociology (1967)
B.A., Brigham Young University, 1956; Ph.D., Cornell University, 1967.
- Vern J. Crandall** Assistant Professor of Computer Science and Statistics (1968)
B.A., Brigham Young University, 1963; M.S., Kansas State University, 1964.
- Loretta Seneca Crane** Assistant Professor of Nursing (1966)
B.S., Brigham Young University, 1961; M.S., University of Utah, 1964.
- Earl C. Crockett** Professor of Economics (1957)
B.S., University of Utah, 1927; Ph.D., University of California, 1931.
- Evan M. Croft** Associate Professor of Business Education (1936)
B.S., Brigham Young University, 1929; M.S., University of Southern California, 1940.
- Garth F. Croft** Instructor in Microbiology (1966)
B.S., Brigham Young University, 1957.
- Walter Cryer** Assistant Professor of Physical Education (1964)
B.S., M.S., University of Illinois, 1952, 1959.
- Bert P. Cundick** Associate Professor of Psychology (1962)
B.A., M.S., University of Utah, 1957, 1959; Ph.D., Ohio State University, 1962.
- Robert Cundick** Associate Professor of Music (1966)
BFA, MFA, Ph.D., University of Utah, 1949, 1950, 1955.
- Brandt B. Curtis** Assistant Professor of Music (1955)
B.A., Brigham Young University, 1953; M.Mus., Indiana University, 1955.
- Beverly R. Cutler** Associate Professor of Education (1969)
B.A., University of Utah, 1952; M.S., Brigham Young University, 1963; Ph.D., Stanford University, 1966.

- Virginia F. Cutler** Distinguished Professor of Family Economics and Home Management (1961)
B.S., University of Utah, 1926; M.A., Stanford University, 1937; Ph.D., Cornell University, 1946.
- Delva Daines** Professor of Elementary Education (1955)
B.S., M.S., Utah State University, 1940, 1947; Ed.D., Washington State University, 1956.
- Robert H. Daines** Associate Professor of Business Management (1959)
B.S., Utah State University, 1956; MBA, Stanford University, 1959; DBA, Indiana University, 1966.
- Nelson Kent Dalley** Assistant Professor of Chemistry (1969)
B.S., M.S., Brigham Young University, 1960, 1964; Ph.D., University of Texas at Austin, 1968.
- David J. Dalton** Instructor in Music (1963)
B.M., M.M., Eastman School of Music, 1959, 1961.
- Philip B. Daniels** Associate Professor of Psychology (1961)
B.S., M.S., Brigham Young University, 1954, 1957; Ph.D., Harvard University, 1962.
- Alexander B. Darais** Associate Professor of Art (1954)
B.S., Brigham Young University, 1948; MFA, Claremont Graduate School, 1952.
- Bertha B. Davidson** Clinical Instructor in Elementary Education (1950)
B.S., M.Ed., Brigham Young University, 1950, 1954.
- J. Kenneth Davies** Professor of Economics (1953)
B.S., Marquette University, 1945; M.S., Brigham Young University, 1950; Ph.D., University of Southern California, 1959.
- D. Evan Davis** Professor of Music (1965)
B.A., University of California at Los Angeles, 1946; M.Mus., Northwestern University, 1948; Ed.D., University of Oregon, 1953.
- Fred P. Davis** Wrestling Coach; Instructor in Physical Education (1964)
B.S., Oklahoma State University, 1957.
- S. Sgt. G. Douglas Davis** Instructor in Aerospace Studies (1967)
- Garold N. Davis** Associate Professor of German (1968)
B.A., M.A., Brigham Young University, 1958, 1959; Ph.D., Johns Hopkins University, 1962.
- Harrison M. Davis** Assistant Professor of Humanities and Comparative Literature (1962)
- C. Edwin Dean** Associate Professor of Computer Science (1949)
B.S., M.S., Brigham Young University, 1948, 1952; M.S., University of Michigan, 1955.
- Daniel L. Decker** Professor of Physics (1958)
B.S., M.S., Brigham Young University, 1953, 1955; Ph.D., University of Illinois, 1958.
- Harry C. Dees** Instructor in Library Science (1959)
B.A., Brigham Young University, 1949; M.A., University of California, 1950.
- Arturo De Hoyos** Associate Professor of Indian Education (Sociology) (1968)
B.A., M.A., Brigham Young University, 1952, 1954; Ph.D., Michigan State University, 1961.
- Benjamin F. De Hoyos** Assistant Professor of Recreation Education (1961)
B.S., M.A., Brigham Young University, 1956, 1961; Ph.D., University of Utah, 1969.
- Gerrit de Jong, Jr.** Professor of Modern Languages; Dean Emeritus, College of Fine Arts (1925)
B.A., M.A., University of Utah, 1920, 1925; Ph.D., Stanford University, 1933.
- Thelma B. de Jong** Clinical Instructor in Secondary Education (1957)
B.A., Southern Idaho College of Education, 1948; M.A., Brigham Young University, 1957.
- Jack Frank Demann** Instructor in Communications (1969)
B.A., University of Utah, 1958.
- Stanford D. DeMille** Assistant Professor of Business Education (1957)
B.S., M.S., Brigham Young University, 1950, 1960.
- Ronald D. Dennis** Instructor in Spanish and Portuguese (1969)
B.A., Brigham Young University, 1964; M.A., University of Wisconsin, 1966.
- William E. Dibble** Associate Professor of Physics (1961)
B.S., Ph.D., California Institute of Technology, 1954, 1960.
- Dwight R. Dixon** Professor of Physics (1959)
B.S., Utah State University, 1942; Ph.D., University of California (Berkeley), 1955.
- Fred W. Dixon** Assistant Professor of Physical Education, (1928)
B.S., M.S., Brigham Young University, 1926, 1939.

- Mignon S. Domgaard** Instructor in Clothing and Textiles (1954)
B.S., Utah State University, 1943; M.S., Oregon State College, 1954.
- Lucile L. Domigan** Associate Professor of Clothing and Textiles (1967)
B.S., Brigham Young University, 1940; M.S., Utah State University, 1959; Ph.D., Texas Woman's University, 1959.
- David M. Donaldson** Professor of Microbiology (1955)
B.S., M.S., Ph.D., University of Utah, 1950, 1952, 1954.
- Arthur A. Done** Associate Professor of Business Management (1961)
B.S., M.B.A., University of Utah, 1955, 1956; Ph.D., University of Illinois, 1963.
- G. Byron Done** Professor of Scripture (1956)
B.A., University of Utah, 1928; M.A., Ph.D., University of Southern California, 1937, 1939.
- Harold L. Dowdle** Professor of Spanish and Portuguese (1968)
B.A., M.A., Brigham Young University, 1948, 1949; Ph.D., Stanford University, 1954.
- Karen A. Downey** Instructor in Business Education (1966)
B.S., M.S., Brigham Young University, 1963, 1966.
- Lester N. Downing** Professor of Educational Psychology (1954)
B.S., M.S., Utah State University, 1947, 1949; Ed.D., Colorado State College of Education, 1951.
- Robert Henry Downs** Assistant Professor of Music (1966)
B.M., M.M., University of Missouri at Kansas City, 1957, 1957.
- Roy W. Doxey** Professor of Scripture; Assistant Dean, College of Religious Instruction (1948)
B.A., M.A., George Washington University, 1938, 1940.
- Willard B. Doxey** Professor of Economics (1956)
B.S., M.S., University of Utah, 1937, 1947; Ph.D., University of California (Berkeley), 1956.
- J. Duane Dudley** Professor of Physics (1956)
B.S., Brigham Young University, 1952; M.A., Rice Institute, 1953; Ph.D., University of Utah, 1959.
- Claude B. Duerden** Assistant Professor of Child Development and Family Relationships (1969)
B.S., University of Utah, 1950; MPH, University of California at Berkeley, 1954.
- James T. Duke** Associate Professor of Sociology (1963)
B.A., M.A., University of Utah, 1957, 1958; Ph.D., University of California at Los Angeles, 1963.
- Dean S. Dutton** Assistant Professor of Economics (1968)
B.A., University of Utah, 1964; M.A., Ph.D., Michigan State University, 1966, 1968.
- William G. Dyer** Professor of Sociology (1955)
B.A., M.A., Brigham Young University, 1950, 1952; Ph.D., University of Wisconsin, 1955.
- L. Brent Eagar** Associate Professor of Business Management (1959)
BSEE, University of Utah, 1957; MBA, University of Michigan, 1959; DBA, University of Washington, 1965.
- Don L. Earl** Professor of Music (1946)
B.A., M.A., Brigham Young University, 1940, 1947; Ph.D., Indiana University, 1952.
- E. John Eastmond** Professor of Physics (1951)
B.A., Brigham Young University, 1937; Ph.D., University of California (Berkeley), 1943.
- R. LaVell Edwards** Instructor in Physical Education (1965)
B.S., Utah State University, 1952; M.S., University of Utah, 1960.
- Robert L. Egbert** Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1947, 1948; Ph.D., Cornell University, 1949.
- Grant C. Elkington** Instructor in Music (1968)
B.A., Brigham Young University, 1963.
- Carol Ellsworth** Assistant Professor of Home Economics Education (1969)
B.S., Colorado State University, 1951; M.A., Columbia University, 1964.
- Richard Grant Ellsworth** Associate Professor of English (1958)
B.A., M.A., Brigham Young University, 1951, 1952; Ph.D., University of Maryland, 1958.
- Glenn L. Enke** Professor of Civil Engineering (1962)
B.S., University of California, 1928; Registered Engineer, California, 1934, Utah, 1947, Ohio, 1964, Wyoming, 1965; Registered Land Surveyor, Utah, 1955.
- Ross S. Esplin** Assistant Professor of English (1964)
B.A., M.A., Brigham Young University, 1947, 1949.

- David L. Evans** Associate Professor of English (1954)
B.A., Idaho State College, 1948; M.A., Ph.D., University of Utah, 1953, 1968.
- LeRoy G. Faerber** Associate Professor of Business Management (1965)
B.S., MBA, University of Utah, 1958, 1959; DBA, University of Washington, 1964.
- Merwin G. Fairbanks** Instructor in Communications (1962)
B.A., M.A., Brigham Young University, 1941, 1964.
- James L. Farmer** Associate Professor of Zoology (1969)
B.S., California Institute of Technology, 1960; Ph.D., Brown University, 1966.
- Dean B. Farnsworth** Professor of English (1953)
B.A., M.A., University of Utah, 1946, 1947; Ph.D., University of California (Berkeley), 1950.
- Lee W. Farnsworth** Associate Professor of Political Science (1964)
B.A., M.A., University of California at Berkeley, 1957, 1960; Ph.D., Claremont Graduate School, 1963.
- Raymond B. Farnsworth** Professor of Agronomy (1946)
B.S., Brigham Young University, 1937; M.S., Massachusetts State College, 1938; Ph.D., Ohio State University, 1941.
- J. Earl Faulkner** Associate Professor of Statistics (1963)
B.S., Utah State University, 1950; M.S., Kansas State University, 1952; Ph.D., University of Minnesota, 1964.
- Lawrence Fearnley** Professor of Mathematics (1957)
B.S., London University, 1953; Ph.D., University of Utah, 1959.
- Paul E. Felt** Assistant Professor of Indian Education (1957)
B.A., Brigham Young University, 1942; M.S., University of Utah, 1954.
- Richard G. Felt** Instructor in Physical Education for Men (1967)
B.S., Brigham Young University, 1958.
- D. Allan Firmage** Professor of Engineering (1955)
B.S., University of Utah, 1940; M.S., Massachusetts Institute of Technology, 1941; Registered Engineer, Florida, 1948, Utah, 1956.
- A. Garth Fisher** Assistant Professor of Physical Education (1969)
B.S., Brigham Young University, 1955; M.A., Sacramento State College, 1966; Ph.D., University of New Mexico, 1969.
- Chad J. Flake** Assistant Professor of Library Science (1953)
B.A., Brigham Young University, 1953; M.A., University of Denver, 1955.
- Royce P. Flandro** Associate Professor of Secondary Education (1953)
B.S., M.S., University of Utah, 1948, 1950; Ed.D., University of Indiana, 1957.
- Charles T. Fletcher** Assistant Professor of Law Enforcement (1967)
B.S., Brigham Young University, 1939.
- Dale T. Fletcher** Instructor in Art (1965)
B.S., Utah State University, 1953; M.A., University of California at Berkeley, 1956.
- Harvey J. Fletcher, Jr.** Professor of Mathematics (1953)
B.S., Massachusetts Institute of Technology, 1944; M.S., California Institute of Technology, 1948; Ph.D., University of Utah, 1954.
- Marvin H. Folsom** Professor of German (1961)
B.A., M.A., Brigham Young University, 1956, 1957; Ph.D., Cornell University, 1961.
- William E. Fort** Associate Professor of Religious Instruction (1968)
B.S., Georgia Institute of Technology, 1930; M.A., Ph.D., Duke University, 1932, 1934.
- Glen Ray Foster** Assistant Professor of Economics (1967)
B.S., Utah State University, 1963; Ph.D., University of Texas, 1970.
- William Fox** Instructor in General Curriculum (1966)
B.S., M.A., Brigham Young University, 1962, 1966.
- William M. Foxley** Instructor in Music (1969)
B.A., Ph.D., Brigham Young University, 1954, 1969; MFA, University of Utah, 1955.
- Rulon S. Francis** Assistant Professor of Physical Education (1963)
B.S., M.S., Brigham Young University, 1952, 1967; Registered Physical Therapist, University of Southern California, 1954.
- Kay B. Franz** Instructor in Food Science and Nutrition (1968)
B.S., University of California, 1958.
- Joseph C. Free** Associate Professor of Mechanical Engineering (1961)
BES, Brigham Young University, 1958; M.S., California Institute of Technology, 1961; Ph.D., Massachusetts Institute of Technology, 1967.
- Herbert H. Frost** Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1941, 1947; Ph.D., Cornell University, 1955.
- Merrill Franklin Frost** Assistant Professor of Speech (1966)
B.A., M.A., Brigham Young University, 1959, 1964.

- John P. Fugal** Assistant Professor of Religious Instruction (1966)
B.S., M.S., DRE, Brigham Young University, 1948, 1959, 1967.
- Dean K. Fuhrman** Professor of Civil Engineering (1954)
B.S., M.S., Utah State University, 1941, 1950; Ph.D., University of Wisconsin, 1952.
- Darwin Fred Gale** Assistant Professor of Education (1969)
A.S., Weber College, 1957; B.S., M.S., Utah State University, 1958, 1960; Ed.D., Brigham Young University, 1967.
- LaVell C. Gamett** Associate Professor of Industrial Education (1946)
B.S., Brigham Young University, 1935; M.S., University of Oregon, 1951.
- Douglas Garbe** Instructor in General Curriculum (1963)
Associate Professor of Computer Science (1963)
A.S., Snow College, 1956; B.S., Brigham Young University, 1962; M.S., University of Oregon, 1967.
- Andrew L. Gardner** Professor of Physics (1964)
B.S., Utah State University, 1940; Ph.D., University of California (Berkeley), 1955.
- John H. Gardner** Professor of Physics (1949)
B.S., Utah State University, 1943; M.A., Ph.D., Harvard University, 1947, 1950.
- Robert Wayne Gardner** Associate Professor of Animal Science (1966)
B.S., Utah State University, 1958; M.S., Ph.D., Cornell University, 1960, 1962.
- Willard H. Gardner** Senior Systems Analyst of Computer Center;
Assistant Professor of Computer Science (1963)
B.S., Utah State University, 1948; M.S., Brigham Young University, 1956.
- Lynn E. Garner** Assistant Professor of Mathematics (1963)
B.S., Brigham Young University, 1962; M.A., University of Utah, 1964; Ph.D., University of Oregon, 1968.
- Lamar E. Garrard** Assistant Professor of Psychology (1967)
B.S., University of Idaho, 1949; M.S., Ph.D., Brigham Young University, 1955, 1968.
- Ray Howard Garrison** Associate Professor of Accounting (1966)
B.S., M.S., Brigham Young University, 1960, 1961; CPA, Colorado, 1962; DBA, Indiana University, 1966.
- Byron W. Gassman** Associate Professor of English (1960)
B.A., Brigham Young University, 1955; M.A., Ph.D., University of Chicago, 1956, 1960.
- Edward A. Geary** Assistant Professor of English (1968)
B.A., M.A., Brigham Young University, 1960, 1963.
- Burton C. Gee** Associate Professor of Mathematics (1960)
B.S., Brigham Young University, 1951; M.S., Ed.D., Oregon State University, 1958, 1965.
- O. Norman Geertsen** Assistant Professor of Physics (1941)
B.S., Brigham Young University, 1930; M.S., University of California at Los Angeles, 1951.
- John Douglas Gibb** Assistant Professor of Speech
and Dramatic Arts (1969)
B.S., M.A., University of Utah, 1963, 1964; Ph.D., Wayne State University, 1966.
- Sara Lee Gibb** Special Instructor in Physical Education for Women (1965)
B.A., Brigham Young University, 1959.
- Rendol L. Gibbons** Assistant Professor of Music (1964)
B.A., M.A., Arizona State College, 1947, 1954; Ph.D., University of Colorado, 1969.
- Willard Eugene Gibbons** Associate Professor of Sociology (1969)
B.S., M.S., University of Utah 1960, 1963.
- M. Carl Gibson** Professor of Spanish (1949)
B.A., M.A., Brigham Young University, 1947, 1949; Ph.D., University of Oregon, 1960.
- Gurcharan S. Gill** Associate Professor of Mathematics (1960)
B.S., Brigham Young University, 1958; M.S., Ph.D., University of Utah, 1960, 1965.
- Kathryn Ellen Gipson** Instructor in Library and Information Sciences (1969)
B.A., M.S., Brigham Young University, 1964, 1968.
- Joseph M. Glassett** Associate Professor of Chemical Engineering (1966)
B.S., University of Utah, 1947; M.S., Massachusetts Institute of Technology, 1948.
- Preston R. Gledhill** Professor of Dramatic Arts (1947)
Degré Supérieur, La Sorbonne, 1938; B.A., Brigham Young University, 1939; M.A., Louisiana State University, 1940; Ph.D., University of Wisconsin, 1951.
- J. Rex Goates** Professor of Chemistry (1947)
B.S., Brigham Young University, 1942; Ph.D., University of Wisconsin, 1947.
- Margaret Tuttle Goff Sanchez** Instructor in English (1964)
B.A., Stanford University, 1942; M.A., University of Utah, 1962.

- Max C. Golightly** Assistant Professor of Dramatic Arts (1960)
B.A., M.A., Brigham Young University, 1950, 1959.
- A. Harold Goodman** Professor of Music (1960)
B.A., University of Arizona, 1947; M.Mus., Ed.D., University of Southern California, 1951, 1960.
- William Dale Goodson** Instructor in General College (1965)
B.S., Ricks College, 1952; M.S., Ed.D., Brigham Young University, 1956, 1969.
- Reese J. Goodwin** Assistant Professor of Civil Engineering (1963)
B.S., M.S., Brigham Young University, 1962, 1963.
- Nan Osmond Grass** Associate Professor of English (1951)
B.A., Brigham Young University, 1930; M.A., Stanford University, 1954.
- John A. Green** Professor of French (1964)
B.A., M.A., Brigham Young University, 1954, 1955; Ph.D., University of Washington, 1960.
- Alan H. Grey** Associate Professor of Geography (1964)
B.A., Brigham Young University, 1959; M.A., Ph.D., University of Wisconsin, 1960, 1963.
- Lue S. Groesbeck** Assistant Professor of Music (1957)
B.A., M.A., Brigham Young University, 1948, 1966.
- Jerry Dee Grover** Associate Professor of Industrial Education (1968)
B.S., M.E., Utah State University, 1956, 1961; Ed.D., Brigham Young University, 1968.
- Stewart L. Grow** Professor of History and Political Science (1947)
B.S., M.S., Brigham Young University, 1935, 1948; Ph.D., University of Utah, 1954.
- Clark J. Gubler** Professor of Chemistry (1958)
B.A., Brigham Young University, 1939; M.A., Utah State University, 1941; Ph.D., University of California, 1945.
- Donworth V. Gubler** Assistant Professor of Russian (1954)
B.A., M.A., Brigham Young University, 1948, 1949.
- Richard L. Gunn** Professor of Art and Education (1948)
B.S., M.S., Brigham Young University, 1947, 1950; Ed.D., Stanford University, 1955; Banff School of Fine Arts.
- Norma Gudden** Instructor in Sociology (1968)
B.A., Brigham Young University, 1962; MSW, Louisiana State University, 1966.
- Brent Que Hafen** Assistant Professor of Health Sciences (1969)
B.S., M.S., University of Utah, 1963, 1965; Ph.D., Southern Illinois University, 1969.
- William J. Hafen** Associate Professor of Recreation Education (1954)
B.S., Brigham Young University, 1950; M.A., Washington State University, 1953; D.R., Indiana University, 1960; Ed.D., University of Utah, 1968.
- David B. Haight** Assistant to the President of the University and
Director of University Development (1966)
- Albert Edward Haines** Director of Space Utilization (1968)
B.S., University of Maryland, 1958.
- Wayne B. Hales** Professor of Physics and Mathematics (1930)
B.A., Brigham Young University, 1916; M.A., University of Utah, 1923; Ph.D., California Institute of Technology, 1926.
- Blaine H. Hall** Instructor in English (1963)
B.S., M.A., Brigham Young University, 1960, 1965.
- H. Tracy Hall** Distinguished Professor of Chemistry (1955)
B.S., M.S., Ph.D., University of Utah, 1942, 1943, 1948.
- Wendell H. Hall** Assistant Professor of Spanish (1966)
B.A., M.A., University of Utah, 1952, 1953.
- John R. Halliday** Professor of Music (1936)
B.A., M.A., Brigham Young University, 1935, 1936; Ph.D., Eastman School of Music, University of Rochester, 1941.
- Lawson O. Hamblin** Assistant Professor of Library Science (1948)
B.A., Brigham Young University, 1938; LL.B., Washington College of Law, American University, 1948.
- W. Kenneth Hamblin** Professor of Geology (1963)
B.A., M.S., Brigham Young University, 1953, 1954; Ph.D., University of Michigan, 1958.
- M. Spencer Hamilton** Assistant Professor of Mathematics (1969)
B.S., M.S., Utah State University, 1959, 1961.
- Donald J. Hammar** Instructor in English (1968)
B.A., M.A., Brigham Young University, 1966, 1968.
- Kathleen Hammond** Assistant Professor of Nursing (1969)
B.S., Brigham Young University, 1960; M.S., University of Utah, 1964.

- Ruth Kartchner Hammond** Instructor in Special Education (1966)
B.S., M.S., University of Utah, 1950, 1955.
- Richard W. Hanks** Associate Professor of Chemical Engineering (1963)
B.E., Yale University, 1957; Ph.D., University of Utah, 1960.
- Allene C. Hansen** Instructor in Home Economics Education (1965)
B.S., Brigham Young University, 1960; M.S., Oregon State University, 1965.
- George H. Hansen** Professor of Geology and Geography (1927)
B.S., Utah State University, 1918; M.S., Ph.D., George Washington University, 1925, 1927.
- Harold I. Hansen** Professor of Dramatic Arts (1952)
B.S., Utah State University, 1937; M.A., Ph.D., State University of Iowa, 1940, 1949.
- H. Kimball Hansen** Associate Professor of Physics and Astronomy (1963)
B.S., M.S., Brigham Young University, 1957, 1959; Ph.D., University of California (Berkeley), 1966.
- John L. Hansen** Instructor in Recreation Education (1966)
B.S., M.R.Ed., Brigham Young University, 1964, 1966.
- Richard A. Hansen** Assistant Professor of Mathematics (1967)
B.S., M.S., Ph.D., University of Utah, 1959, 1961, 1965.
- Terrence L. Hansen** Professor of Spanish (1960)
B.A., University of Utah, 1946; M.A., Ph.D., Stanford University, 1948, 1950.
- John W. Hardy** Assistant Professor of Accounting (1969)
B.S. Brigham Young University, 1964; MBA, Indiana University, 1966.
- Kenneth R. Hardy** Professor of Psychology (1954)
B.A., M.A., University of Utah, 1948, 1949; Ph.D., University of Michigan, 1954.
- LeRoy F. Harlow** Associate Professor of Organization and Management (1967)
B.S., Iowa State University, 1938; M.A., University of Minnesota, 1942.
- Frank W. Harmon** Associate Professor of Elementary Education (1963)
B.S., M.S., University of Utah, 1952, 1956; Ed.D., Columbia University, 1964.
- Rondo S. Harmon** Chairman of Indian Education (1968)
B.S., M.E., Brigham Young University, 1949, 1952.
- Callis R. Harms** Associate Professor of Educational Administration (1960)
B.S., M.Ed., Brigham Young University, 1952, 1956; Ed.D., Arizona State University, 1961.
- Edwin O. Haroldsen** Associate Professor of Communications (1969)
B.S., M.S., University of Utah, 1943, 1956; Ph.D., Iowa State University, 1967.
- James M. Harris** Professor of Educational Psychology (1955)
B.S., M.S., Utah State University, 1952, 1953; Ph.D., Cornell University, 1955.
- James Roy Harris** Assistant Professor of Religious Instruction (1966)
B.S., M.A., Ed.D., Brigham Young University, 1952, 1958, 1965.
- John B. Harris** Associate Professor of English (1958)
B.A., M.A., Brigham Young University, 1955, 1956; Ph.D., Wayne State University, 1965.
- John S. Harris** Assistant Professor of English (1962)
B.A., M.A., Brigham Young University, 1953, 1958.
- Bertrand F. Harrison** Professor of Botany (1929)
B.S., M.S., Brigham Young University, 1930, 1931; Ph.D., University of Chicago, 1937.
- B. Kent Harrison** Associate Professor of Physics (1964)
B.S., Brigham Young University, 1955; M.A., Ph.D., Princeton University, 1958, 1959.
- Betty D. Harrison** Associate Professor of Educational Psychology (1961)
B.S., M.S., Ph.D., Brigham Young University, 1959, 1960, 1965.
- Grant Von Harrison** Assistant Professor of Education (1969)
B.A., Brigham Young University, 1962; M.A., Adams State College, 1965.
- Edward L. Hart** Professor of English (1952)
B.S., University of Utah, 1939; M.A., University of Michigan, 1941; Ph.D., Oxford University (England), 1950.
- Larry D. Hartman** Instructor in Business Education (1964)
B.S., M.S., Brigham Young University, 1962, 1964.
- Leon R. Hartshorn** Associate Professor of Religious Instruction (1965)
B.S., M.S., Brigham Young University, 1956, 1959; Ed.D., Stanford University, 1965.
- Milton F. Hartvigsen** Professor of Physical Education; Dean of the College of Physical Education (1956)
B.S., M.Ed., Utah State University, 1930, 1939; Ed.D., University of California at Los Angeles, 1956.

- George S. Haslam** Chairman of BYU-Ogden Center (1958)
B.S., Utah State University, 1929; M.A., Brigham Young University, 1963.
- Dorian M. Hatch** Assistant Professor of Physics (1968)
B.S., Utah State University, 1962; M.A., State University of New York, 1965.
- Ray C. Hatch** Supervisor at BYU-Salt Lake Center (1963)
LLB, LLM, MPL, National University, 1932, 1933, 1933.
- Ronald D. Hatch** Instructor in Business Management (1968)
B.S., BES, Brigham Young University, 1956, 1957; MBA, Sacramento State College, 1968.
- Floyd E. Haupt** Assistant Professor of Mathematics (1954)
B.S., M.S., University of Arizona, 1947, 1948.
- Nena Rey Hawkes** Assistant Professor of Physical Education
for Women (1961)
B.S., Utah State University, 1954; M.S., Brigham Young University, 1965.
- Richard T. Hawkins** Professor of Chemistry (1959)
B.A., Brigham Young University, 1951; Ph.D., University of Illinois, 1959.
- Darwin L. Hayes** Assistant Professor of English (1961)
B.A., M.A., Brigham Young University, 1957, 1963.
- C. Lynn Hayward** Professor of Zoology (1930)
B.S., M.S., Brigham Young University, 1927, 1931; Ph.D., University of Illinois, 1941.
- Alma Heaton** Assistant Professor of Recreation Education (1953)
B.S., M.S., Utah State University, 1950, 1951.
- Howard S. Heaton** Associate Professor of Mechanical Engineering (1963)
B.S., University of Southern California, 1957; M.S., Ph.D., Stanford University, 1959, 1963.
- Israel C. Heaton** Professor of Recreation Education (1956)
B.S., M.S., Utah State University, 1940, 1941; Re.D., University of Indiana, 1955.
- Major Gayle D. Heckel** Assistant Professor of Aerospace Studies (1967)
B.A., University of Evansville, 1955; M.S., Brigham Young University, 1969.
- Phillipp R. Heer** Instructor in Library Science (1968)
B.S., MLS, Brigham Young University, 1967, 1968.
- Steven Warner Heiner** Assistant Professor of Health Sciences (1969)
B.S., M.S., Ed.D., University of Utah, 1955, 1962, 1969.
- John D. Helm** Instructor in Physical Education (1969)
B.S., Kansas University, 1966.
- E. Dean Henderson** Clinical Instructor in Education (1964)
B.S., M.E., Utah State University, 1936, 1958.
- A. Lemar Hendrickson** Instructor in English (1968)
B.S., M.S., Utah State University, 1938, 1941.
- Leland J. Hendrix** Assistant Professor of Education (1967)
B.S., M.A., Ph.D., Brigham Young University, 1960, 1966, 1967.
- Richard Wilford Heninger** Associate Professor of Zoology (1966)
B.S., Brigham Young University, 1957; M.S., Ph.D., Oklahoma State University, 1959, 1961.
- Charles A. Henson** Assistant Professor of Dramatic Arts (1958)
B.S., M.S., Brigham Young University, 1957, 1959.
- Richard H. Henstrom** Assistant Professor of Education; Coordinator
of Continuing Education (1957)
BFA, MFA, University of Utah, 1945, 1953; Ed.D., Brigham Young University, 1966.
- Karl P. Herde, Jr.** Assistant Professor of Accounting (1957)
B.S., M.S., Brigham Young University, 1949, 1956.
- Wayne R. Herlin** Assistant Professor of Guided Studies (1964)
B.A., University of Utah, 1953; M.A., Stanford University, 1956; Ph.D., University of Utah, 1963.
- Wilford M. Hess** Associate Professor of Botany (1962)
B.S., Brigham Young University, 1957; M.S., Ph.D., Oregon State University, 1960, 1962.
- Jean-Pierre Heudier** Assistant Professor of French (1960)
B.A., Montana State University, 1957; M.A., Brigham Young University, 1960.
- Martin B. Hickman** Professor of Political Science; Acting Dean of the
College of Social Sciences (1967)
B.S., M.A., Ph.D., University of Utah, 1951, 1952, 1954; MPA, Harvard University, 1960.
- Kenneth L. Higbee** Assistant Professor of Psychology (1970)
B.S., M.S., Brigham Young University, 1965, 1966.

- John C. Higgins** Associate Professor of Mathematics (1961)
B.A., M.A., Brigham Young University, 1958, 1960; Ph.D., University of California (Davis), 1966.
- Armin J. Hill** Professor of Physics; Dean of the College of Physical and Engineering Sciences (1957)
B.S., M.S., Montana State College, 1932, 1938; M.S., Ph.D., California Institute of Technology, 1949, 1950.
- L. Douglas Hill** Instructor in English (1959)
B.S., M.S., Brigham Young University, 1954, 1957.
- Marvin S. Hill** Assistant Professor of History (1966)
B.A., M.A., Brigham Young University, 1955, 1955; Ph.D., University of Chicago, 1968.
- Max W. Hill** Professor of Physics (1958)
B.A., Brigham Young University, 1954; Ph.D., University of California (Berkeley), 1959.
- Kenneth L. Hillam** Professor of Mathematics (1957)
B.S., M.S., University of Utah, 1949, 1956; Ph.D., University of Colorado, 1962.
- Ray C. Hillam** Associate Professor of Political Science (1960)
B.A., University of Utah, 1955; M.A., George Washington University, 1958; Ph.D., American University, 1964.
- H. Gill Hilton** Associate Professor of Statistics (1962)
B.S., Brigham Young University, 1957; M.S., Ph.D., North Carolina State College, 1960, 1962.
- Edwin C. Hinckley** Professor of Industrial Education (1963)
B.S., M.S., Oregon State University, 1950, 1956; Ed.D., Colorado State College, 1963.
- Douglas Hindmarsh** Instructor in Library Science (1968)
B.A., M.S., Brigham Young University, 1965, 1968.
- Lehi F. Hintze** Professor of Geology (1955)
B.A., University of Utah, 1941; M.A., Ph.D., Columbia University, 1949, 1951.
- Willard M. Hirschi** Assistant Professor of Health Sciences (1964)
B.S., Brigham Young University, 1956; M.A., Arizona State University, 1960.
- Cynthia C. Hirst** Assistant Professor of Physical Education for Women (1965)
B.S., University of Utah, 1947; M.S., University of Washington, 1952.
- Richard Hodson** Testing and Research Analyst (1966)
B.A., Brigham Young University, 1960; M.A., California State, Los Angeles, 1965.
- Leona Holbrook** Professor of Physical Education (1937)
B.S., University of Utah, 1929; M.A., Ed.D., Columbia University, 1935, 1950.
- Lyal E. Holder** Associate Professor of Education (1966)
B.S., Brigham Young University, 1951; M.A., Colorado State College, 1958; Ed.D., Colorado State College, 1962.
- Ivin L. Holt** Assistant Professor of Industrial Education (1963)
B.S., Brigham Young University, 1957; M.Ed., Pennsylvania State University, 1958.
- Minnie Rebecca Hood** Assistant Professor of Nursing (1968)
B.S., University of Mississippi, 1953; M.S., University of Maryland, 1964.
- Keith H. Hoopes** Professor of Animal Science (1957)
B.S., Utah State University, 1957; DVM, State College of Washington, 1956.
- Russell N. Horiuchi** Assistant Professor of Geography (1961)
B.A., Brigham Young University, 1953; M.A., University of California, 1958.
- A. Burt Horsley** Professor of Philosophy and Religion (1956)
B.A., M.A., Brigham Young University, 1945, 1954; Dd.P., Münster University, 1955; Ph.D., Westphalian Welhelms Universität, Münster, Germany, 1956.
- Larry L. Hortin** Instructor in Library Science (1969)
B.S., Brigham Young University, 1960; M.S., University of Oregon, 1967.
- Frank K. Horton** Assistant Professor of English (1955)
B.A., Brigham Young University, 1951; M.A., University of Southern California, 1957.
- M. Duane Horton** Associate Professor of Chemical Engineering (1963)
B.S., Ph.D., University of Utah, 1957, 1961.
- William A. Hoskisson** Associate Professor of Microbiology (1957)
B.S., M.S., Utah State University, 1938, 1941; Ph.D., University of Illinois, 1944.
- Donald Hugh Howard** Instructor in Library Science (1969)
B.A., University of Idaho, 1963; M.S., University of California at Berkeley, 1964.
- Janet Methvin Howard** Instructor in Business Education (1969)
B.S., M.S., Northwestern State College, 1965, 1968.
- Alice E. Howe** Assistant Professor of English (1959)
B.A., M.A., Brigham Young University, 1958, 1961.

- Robert J. Howell** Professor of Psychology (1952)
B.A., M.A., Ph.D., University of Utah, 1948, 1949, 1951.
- Ernest D. Hubbard** Associate Professor of Accounting (1963)
B.S., Utah State University, 1952; MBA, University of Utah, 1959; DBA, University of Washington, 1967.
- Tommy J. Hudspeth** Instructor in Physical Education;
Head Football Coach (1964)
B.A., University of Tulsa, 1953.
- DeVerl S. Humpherys** Associate Professor of Electrical Engineering (1964)
B.S., Brigham Young University, 1955; M.S., University of Utah, 1957; Ph.D., University of Illinois, 1963.
- O. Glade Hunsaker** Instructor in English (1964)
B.S., Utah State University; M.A., Brigham Young University, 1964.
- Royal C. Hurd** Instructor in Mathematics (1967)
B.S., Brigham Young University, 1959; M.S., University of Utah, 1969.
- Claudia J. Hyatt** Special Instructor in Physical Education (1968)
B.S., University of Utah, 1965.
- Paul V. Hyer** Professor of History (1957)
B.A., Brigham Young University, 1951; M.A., Ph.D., University of California, 1953, 1960.
- Carlton A. Infanger** Associate Professor of Agricultural Economics (1965)
B.S., M.S., Ph.D., Montana State College, 1955, 1956, 1964.
- Reed M. Izatt** Professor of Chemistry (1956)
B.S., Utah State University, 1951; Ph.D., Pennsylvania State University, 1954.
- T. Wendell Jackson** Assistant Professor of Spanish
and Portuguese (1968)
B.A., Brigham Young University, 1956; Ph.D., Ohio State University, 1968.
- Ramona M. Jacob** Clinical Instructor in Education (1962)
B.A., M.A., Brigham Young University, 1942, 1966.
- Briant S. Jacobs** Professor of English (1946)
B.A., Brigham Young University, 1939; Ph.D., State University of Iowa, 1944.
- Phyllis C. Jacobson** Assistant Professor of Physical Education for
Women (1957)
B.S., M.S., Utah State University, 1953, 1954.
- M. Wells Jakeman** Professor of Archaeology and Anthropology (1946)
B.A., University of Utah, 1931; M.A., University of Southern California, 1932; Ph.D., University of California, 1938.
- Sherald W. James** Instructor in Health Sciences (1962)
B.S., M.S., Brigham Young University, 1956, 1962.
- Thomas A. James** Chairman of Special Courses and Conferences (1963)
B.A., M.S., Brigham Young University, 1957, 1966.
- Virgil A. James** Professor of Business Management; Director of
Management Development Programs (1967)
B.S., University of Utah, 1936; Ph.D., Cornell University, 1951.
- Ronald D. Jamison** Associate Professor of Mathematics (1963)
B.S., Brigham Young University, 1957; Ph.D., University of Utah, 1965.
- Boyd O. Jarman** Associate Professor of Physical Education (1969)
B.S., Brigham Young University, 1954; M.S., Ed.D., University of Oregon, 1959, 1965.
- August W. Jaussi** Associate Professor of Zoology (1962)
B.S., University of Idaho, 1953; M.S., Brigham Young University, 1955; Ph.D., Oklahoma State University, 1960.
- Duane E. Jeffery** Assistant Professor of Zoology (1969)
B.S., M.S., Utah State University, 1962, 1963; M.A., University of California at Berkeley, 1966.
- Jean R. Jenkins** Instructor in Speech (1967)
B.A., M.A., Brigham Young University, 1947, 1966.
- Ronda H. Jenkins** Assistant Professor of Industrial Education (1964)
B.S., M.A., Brigham Young University, 1955, 1966.
- Allene Jensen** Instructor in Library Science (1961)
B.A., M.S., University of Utah, 1930, 1957.
- Clayne R. Jensen** Professor of Physical Education and Recreation
Education; Assistant Dean, College of Physical Education (1964)
B.S., M.S., University of Utah, 1952, 1956; PED, Indiana University, 1963.
- C. Russell Jensen** Instructor in History (1968)
B.A., University of Utah, 1964; M.A., University of Virginia, 1965; Ph.D., University of Oregon, 1968.

- De Lamar Jensen** Professor of History (1957)
B.A., Brigham Young University, 1952; M.A., Ph.D., Columbia University, 1953, 1957.
- Denmark C. Jensen** Instructor in Provisional Registration (1969)
BSEA, University of Idaho, 1943; M.S., University of Nebraska at Omaha, 1970.
- Don C. Jensen** Instructor in French (1963)
B.A., M.A., Brigham Young University, 1960, 1963.
- Gary L. Jensen** Assistant Professor of Physics (1965)
B.S., Utah State University, 1958; M.S., Ph.D., University of Michigan, 1960, 1964.
- Gordon Kay Jensen** Assistant Professor of Spanish
and Portuguese (1969)
B.A., Brigham Young University, 1963; M.A., University of Wisconsin, 1966.
- James A. Jensen** Curator of Geology (1961)
- Joyce I. Jensen** Assistant Professor of Physical Education
for Women (1967)
B.S., M.S., University of Utah, 1951, 1957.
- Larry C. Jensen** Associate Professor of Psychology (1965)
B.S., M.S., Brigham Young University, 1960, 1961; Ph.D., Michigan State University, 1966.
- Marcus Martin Jensen** Associate Professor of Microbiology (1969)
B.S., M.S., Utah State University, 1952, 1954; Ph.D., University of California at Los Angeles, 1961.
- Mary B. Jensen** Assistant Professor of Recreation Education (1953)
B.A., Park College of Missouri, 1939; M.A., Brigham Young University, 1963.
- Reed J. Jensen** Assistant Professor of Chemistry (1967)
B.A., Ph.D., Brigham Young University, 1960, 1965.
- Vern H. Jensen** Professor of Educational Psychology; Director of
Counseling Center (1949)
B.S., M.S., Brigham Young University, 1948, 1950; Ed.D., University of Colorado, 1957.
- Gloria D. Jenson** Assistant Professor of Library Science (1954)
B.S., Brigham Young University, 1950; M.S., Columbia University, 1954.
- Ernest C. Jeppsen** Professor of Industrial Education; Dean of
the College of Industrial and Technical Education (1959)
B.S., Utah State University, 1926; M.S., Colorado State University, 1938.
- J. Lorin Jex** Assistant Professor of Speech (1949)
B.A., M.A., Brigham Young University, 1947, 1950.
- Franz M. Johansen** Assistant Professor of Art (1956)
B.A., M.A., Brigham Young University, 1955, 1960; Illinois Institute of Technology, California School of Arts and Crafts, Academie de la Grand Chaumiere.
- Carl-Erik Johansson** Instructor in Religious Instruction and
Technical Institute (1969)
B.S., Brigham Young University, 1967.
- Barry L. Johnson** Instructor in Sociology (1965)
B.S., M.S., Brigham Young University, 1963, 1965.
- Eldred A. Johnson** Professor of Accounting (1955)
B.A., M.A., Brigham Young University, 1949, 1950; CPA, California, 1952; Ph.D., University of Utah, 1968.
- H. Thayne Johnson** Director of Graduate Department of Library and
Information Sciences; Associate Professor of Library and Information
Sciences (1965)
B.A., M.A., Brigham Young University, 1950, 1952; M.S., University of Southern California, 1959.
- John Hal Johnson** Assistant Professor of Food Science
and Nutrition (1969)
B.S., M.S., Brigham Young University, 1955, 1957; Ph.D., Ohio State University, 1963.
- Lavon C. Johnson** Associate Professor of Physical Education (1969)
B.A., Brigham Young University, 1957; M.A., Ph.D., University of Utah, 1959, 1967.
- Col. Lawrence H. Johnson** Professor of Aerospace Studies (1968)
B.S., Florida Southern College, 1953; MBA, George Washington University, 1966.
- Lynn E. Johnson** Assistant Professor of Psychology; Director of
Education Information and Guidance Center (1961)
B.A., Brigham Young University, 1958; M.A., Ph.D., University of Utah, 1959, 1962.
- Richard W. Johnson** Counselor in Student Personnel
Counseling Center (1968)
A.S., Weber State College, 1959; B.S., Utah State University, 1961; M.S., University of Wisconsin, 1964; Ph.D., Brigham Young University, 1968.

- Douglas E. Jones** Associate Professor of Physics (1964)
B.S., M.S., Ph.D., Brigham Young University, 1957, 1959, 1965.
- J. Richard Jones** Assistant Professor of Physical Education for Men (1961)
B.S., M.S., Brigham Young University, 1951, 1955; Ed.D., Colorado State College, 1967.
- Jens J. Jonsson** Professor of Electrical Engineering (1953)
BSGE, BSEE, University of Utah, 1944, 1947; MSEE, Ph.D., Purdue University, 1948, 1951.
- K. Paul Jordan** Instructor in Library Science (1967)
B.S., Brigham Young University, 1964.
- Clive D. Jorgensen** Associate Professor of Zoology (1963)
B.S., M.S., Brigham Young University, 1954, 1957; Ph.D., Oregon State University, 1964.
- Eleanor Jorgensen** Associate Professor of Clothing and Textiles (1949)
B.S., Brigham Young University, 1946; M.S., Kansas State College, 1954; Ph.D., Texas Women's University, 1965.
- Linda Julio** Instructor in Associate Degree Nursing (1969)
B.S., Brigham Young University, 1966.
- Percy G. Kalt** Instructor in Music (1966)
B.S., M.M., University of Utah, 1957, 1968.
- Ardeeth G. Kapp** Clinical Instructor in Education (1968)
B.S., University of Utah, 1964.
- Kenneth W. Karren** Associate Professor of Civil Engineering (1965)
B.S., M.S., University of Utah, 1953, 1961; Ph.D., Cornell University, 1965; Registered Engineer, Utah, 1959.
- Reba Keele** Assistant Professor of Education (1967)
A.S., Carbon Jr. College, 1961; B.S., M.A., Brigham Young University 1963, 1966.
- Joseph J. Keeler** Associate Professor of Music; University Organist (1935)
B.S., M.A., Brigham Young University, 1940, 1950.
- Hans-Wilhelm Kelling** Associate Professor of German (1962)
Abitur, Germany, 1952; B.A., Brigham Young University, 1958; M.A., Stanford University, 1960; Ph.D., Stanford University, 1967.
- Burton C. Kelly** Associate Professor of Educational Psychology;
Assistant Director of Counseling Center (1962)
B.S., Idaho State College, 1952; M.S., Brigham Young University, 1955; Ph.D., University of Chicago, 1966.
- Ruth M. Kennington** Assistant Professor of Nursing (1967)
B.S., Brigham Young University, 1956; M.S., University of Washington, 1964.
- Thomas D. Kershaw** Supervisor at BYU-Ricks Center (Idaho Falls) (1966)
B.S., Ricks College, 1955; M.Ed., Brigham Young University, 1956.
- C. Rodney Kimball** Instructor in Physical Education and
Health Sciences (1937)
B.S., M.S., Brigham Young University, 1955, 1963.
- Edwin R. Kimball** Professor of Physical Education (1935)
B.S., Brigham Young University, 1926; M.S., University of Southern California, 1935; Ed.D., University of Oregon, 1955.
- M. Douglas Kimball** Instructor in French (1967)
B.A., M.A., University of Utah, 1953, 1964.
- Alma W. King** Assistant Professor of Religious Instruction;
Academic Standards (1956)
B.S., M.S., Brigham Young University, 1930, 1936.
- R. Brent Kinghorn** Supervisor at BYU-Ricks Center (Rexburg) (1967)
A.S., Ricks College, 1961; B.A., University of Utah, 1965; M.Ed., Brigham Young University, 1967.
- Carol G. Kingsolver** Instructor in Nursing (1964)
B.S., Brigham Young University, 1961.
- Hattie M. Knight** Associate Professor of Library and
Information Sciences (1941)
B.S., Brigham Young University, 1941; B.S., University of Denver, 1943; M.S., George Peabody College for Teachers, 1951.
- Larry V. Knight** Assistant Professor of Physics and Astronomy (1969)
B.S., M.S., Brigham Young University, 1958, 1959; Ph.D., Stanford University, 1965.
- Leland Knight** Clinical Instructor in Education (1967)
A.B., M.A., Chico State College. 1960, 1967.
- Elmer M. Knowles** Professor of Child Development and Family
Relationships (1962)
B.S., M.S., Utah State University, 1949, 1950; Ph.D., Cornell University, 1952.

- Ronald H. Koller, II** Assistant Professor of Economics (1969)
B.S., University of Utah, 1962; M.A., Ph.D., University of Wisconsin, 1968, 1969.
- Joanne Koplin** Instructor in Education (1968)
B.S., University of Utah, 1951.
- Phillip R. Kunz** Assistant Professor of Sociology (1968)
B.S., M.S., Brigham Young University, 1961, 1962; Ph.D., University of Michigan, 1967.
- L. Gary Lambert** Assistant Professor of French (1969)
B.A., University of California (Berkeley), 1963; M.A., University of California (Santa Barbara), 1965; Ph.D., Rice University, 1969.
- Neal E. Lambert** Assistant Professor of English (1966)
B.A., Ph.D., University of Utah, 1961, 1966.
- William R. Lambert** Assistant Professor of Business Management (1962)
B.S., University of Utah, 1953; MBA, Harvard Graduate School, 1962; DBA, Indiana University, 1968.
- Jack W. Lamoreaux** Assistant Professor of Mathematics (1968)
B.S., Brigham Young University, 1960; M.S., Ph.D., University of Utah, 1964, 1967.
- Merle E. Lamson** Instructor in Library and Information Sciences (1961)
B.S., Brigham Young University, 1955; M.S., Columbia University, 1960.
- A. Dean Larsen** Assistant Professor of Library Science (1956)
B.S., Brigham Young University, 1954; M.A., University of Michigan, 1960.
- Don H. Larsen** Professor of Microbiology (1952)
B.S., Brigham Young University, 1940; M.A., University of Nebraska, 1942; Ph.D., University of Utah, 1950.
- Jean Larsen** Instructor in Child Development and Family Relationships (1960)
B.S., M.S., Brigham Young University, 1953, 1960.
- Kenneth M. Larsen** Associate Professor of Mathematics (1960)
B.A., University of Utah, 1950; M.A., Brigham Young University, 1956; Ph.D., University of California at Los Angeles, 1964.
- Vernon W. Larsen** Professor of Sociology (1952)
B.A., M.A., Brigham Young University, 1949, 1950; Ph.D., Cornell University, 1957.
- Clinton F. Larson** Professor of English (1947)
B.A., M.A., University of Utah, 1943, 1947; Ph.D., University of Denver, 1956.
- Everett Gerald Larson** Associate Professor of Physics (1964)
B.S., M.S., Ph.D., Massachusetts Institute of Technology, 1957, 1959, 1964.
- Lael S. Larson** Clinical Instructor in Nursing (1965)
B.S., University of Utah, 1953.
- Duane M. Laws** Associate Professor of Child Development and Family Relationships (1963)
B.A., M.A., Brigham Young University, 1958, 1959; Ed.D., Teachers College at Columbia University, 1964.
- W. Derby Laws** Professor of Agronomy (1960)
B.S., Brigham Young University, 1939; M.S., Utah State University, 1941; Ph.D., Ohio State University, 1944.
- Harold R. Laycock** Professor of Music (1949)
B.A., M.A., Brigham Young University, 1937, 1947; DMA, University of Southern California, 1961.
- Ralph G. Laycock** Associate Professor of Music (1953)
B.A., Brigham Young University, 1941; M.S., Juilliard School of Music, NYC, 1948; DMA, University of Southern California, 1970.
- Robert L. Layton** Professor of Geography (1954)
B.S., M.S., University of Utah, 1951, 1952; Ph.D., University of Syracuse, 1962.
- Curtis Ledbetter** Assistant Professor of Religious Instruction, Psychometrest, Counseling Center (1967)
B.A., Southwestern University, 1951; B.D., Perkins School of Theology, SMU, 1954; M.A., St. Mary's University, 1966.
- Evelyn M. Lee** Assistant Professor of Clothing and Textiles (1962)
B.S., M.S., Montana State College, 1952, 1959.
- Harold W. Lee** Professor of French (1937)
B.A., M.A., Brigham Young University, 1938, 1940; Ph.D., Stanford University, 1946.
- Tsai-feng Mazie Lee** Instructor in Chinese (1965)
B.A., Tunghai University, Taiwan, 1960.
- Courtney Leishman** Instructor in Physical Education (1963)
B.S., Utah State University, 1958; M.S., Brigham Young University, 1962.

- Ben E. Lewis** Executive Vice-President (1952)
B.S., Brigham Young University, 1940; M.S., Denver University, 1942.
- Stella Dixon Lewis** Special Instructor in Family Economics and Home Management (1956)
B.S., M.H.Ed., Brigham Young University, 1938, 1966.
- Elizabeth L. Liechty** Assistant Professor of Clothing and Textiles (1952)
B.S., Utah State University, 1948; M.S., University of California at Los Angeles, 1954.
- William Reinwald Liechty** Instructor in Botany (1966)
B.A., M.A., Brigham Young University, 1944, 1953.
- Charlene Lind** Instructor in Clothing and Textiles (1964)
B.S., Utah State University, 1955; M.A., University of Maryland, 1961.
- Howard G. Linford** Special Instructor in Physical Education (1968)
B.S., University of Utah, 1959.
- Wesley P. Lloyd** Professor of Education (1935)
B.S., M.S., Brigham Young University, 1927, 1934; Ph.D., University of Chicago, 1937.
- Howard W. Lo** Instructor in Library Science (1969)
B.A., Tamkang College of Arts and Sciences, 1961; MLS, Brigham Young University, 1969.
- Naomi B. Loftus** Instructor in Associate Degree Nursing (1969)
B.S., Brigham Young University, 1962.
- Lester B. Long** Special Instructor in Industrial Technology (1959)
B.S., Brigham Young University, 1958.
- Nancy E. Long** Instructor in Nursing (1967)
Diploma, Holzer Hospital School of Nursing, 1959; BSN, Ohio State University, 1962.
- John T. Longhurst** Instructor in Music (1969)
B.Mus., M.Mus., University of Utah, 1965, 1966.
- Dean R. Longmore** Instructor in Business Management (1968)
B.S., Brigham Young University, 1967; MBA, University of Utah, 1968.
- Ferril A. Losee** Professor of Electrical Engineering (1965)
B.S., University of Utah, 1953; M.S., University of Southern California, 1957.
- Gordon M. Low** Professor of Speech (1964)
B.S., M.S., University of Utah, 1949, 1950; Ph.D., University of Minnesota, 1955.
- Paul F. Luckau** Assistant Professor of German (1964)
B.A., M.A., University of Utah, 1949, 1955.
- Daniel H. Ludlow** Professor of Scripture; Dean of the College of Religious Instruction (1955)
B.S., Utah State University, 1946; M.S., Indiana University, 1953; Ed.D., Columbia University, 1955.
- Col. David R. Lyon** Professor of Military Science (1968)
B.A., University of Utah, 1941; MSBA, George Washington University, 1966.
- Marilyn Cleo Lyons** Assistant Professor of Nursing (1966)
B.S., University of Utah, 1960; M.A., New York University, 1966.
- Eldon G. Lytle** Instructor in Linguistics (1968)
B.A., M.A., Brigham Young University, 1961, 1962.
- LeRay L. McAllister** Assistant Professor of Accounting (1963)
B.A., Brigham Young University, 1957; M.S., Arizona State University, 1960; CPA, Utah, 1962.
- Ross "J" McArthur** Professor of Industrial Education (1956)
B.S., M.S., Utah State University, 1949, 1953; Ed.D., University of Missouri, 1955.
- Myron William McIntyre** Assistant Professor of English (1967)
B.A., Sacramento State College, 1951; M.A., Ph.D., University of California (Berkeley), 1958, 1965.
- J. Glen McKellar** Assistant Professor of English (1964)
B.A., M.A., Brigham Young University, 1960, 1962; Ph.D., University of Colorado, 1968.
- John E. McKendrick** Associate Professor of English (1953)
B.A., M.A., University of Utah, 1942, 1949.
- Lynn A. McKinlay** Assistant Professor of Communications (1955)
Certificate, Post Graduate Certificate, Pasadena Community Playhouse, College of Theatre Arts, 1936, 1937.
- Gary Francis McKinnon** Assistant Professor of Business Management (1969)
B.S., MBA, University of Utah, 1962, 1963; Ph.D., University of Texas, 1968.
- Max E. McKinnon** Assistant Professor of Industrial Education (1957)
B.S., M.S., Utah State University, 1949, 1954.

- Delbert H. McNamara** Professor of Physics (1955)
B.S., Ph.D., University of California (Berkeley), 1947, 1950.
- Melvin P. Mabey** Professor of History and Political Science (1955)
B.S., M.A., Brigham Young University, 1947, 1953; D. Phil., Oxford University (England), 1955.
- Thomas W. Mackay** Instructor in Classical Languages (1964)
B.A., M.A., Brigham Young University, 1963, 1966.
- Truman G. Madsen** Professor of Philosophy (1957)
B.S., M.S., University of Utah, 1951, 1952; A.M., Ph.D., Harvard University, 1957, 1960.
- Francis R. Magleby** Associate Professor of Art (1959)
B.S., M.S., Brigham Young University, 1950, 1951.
- Nolan F. Mangelson** Assistant Professor of Chemistry (1969)
B.S., Utah State University, 1961; M.S., Brigham Young University, 1963; Ph.D., University of California at Berkeley, 1967.
- John H. Mangum** Associate Professor of Chemistry (1963)
B.S., M.S., Brigham Young University, 1957, 1959; Ph.D., University of Washington, 1963.
- Robert P. Manookin** Assistant Professor of Music (1959)
B.A., Brigham Young University, 1955; M.Mus., University of Illinois, 1959; Ph.D., University of Utah, 1967.
- Maurice P. Marchant** Assistant Professor of Library and Information Science (1965)
B.A., M.S., University of Utah, 1949, 1953; AMLS, M.A., University of Michigan, 1966, 1968.
- H. Carleton Marlow** Associate Professor of History (1964)
B.S., M.S., Brigham Young University, 1958, 1959; Ph.D., University of Oklahoma, 1966.
- Robert L. Marshall** Instructor in Art (1969)
B.A., M.A., Brigham Young University, 1966, 1968.
- James Mason** Assistant Professor of Music (1962)
B.A., M.A., Brigham Young University, 1955, 1957.
- Helen Adde H. Matern** Instructor in Associate Degree Nursing (1966)
Diploma in Nursing, St. Patrick's Hospital School of Nursing, 1959; B.S., College of Great Falls, 1961; M.N., Montana State University, 1966.
- Ray T. Matheny** Assistant Professor of Anthropology and Archaeology (1964)
B.A., M.A., Brigham Young University, 1960, 1962; Ph.D., University of Oregon, 1968.
- Conan E. Mathews** Professor of Art; Dean Emeritus of the College of Fine Arts and Communications (1956)
B.A., College of Idaho, 1936; MFA, University of Utah, 1950; California School of Fine Arts, Columbia University.
- Robert W. Matlock** Drill Instructor and Personnel Administration in Aerospace Studies (1969)
- Karen L. Matthews** Instructor in Library Science (1969)
B.A., Brigham Young University, 1963; M.A., University of Denver, 1964.
- Leonard Roy Mavor** Instructor in Recreation Education (1967)
Teacher's Certificate, Claremont College, 1961; B.S., Brigham Young University, 1967.
- Craig K. Mayfield** Associate Professor of Guided Studies (1969)
B.S., M.S., University of Oregon, 1950, 1957; Ed.D., Brigham Young University, 1961.
- D. Eugene Mead** Assistant Professor of Child Development and Family Relationships (1967)
B.A., University of Oregon, 1956; M.A., San Jose State College, 1963; Ph.D., University of Oregon, 1967.
- J. Keith Melville** Professor of Political Science (1957)
B.A., University of Utah, 1947; M.A., University of California, 1956; Ph.D., University of Utah, 1959.
- Ella E. Merrill** Assistant Professor of Nursing (1965)
Diploma, Thomas D. Dee Memorial Hospital, 1950; B.S., University of Utah, 1956; MPH, University of California, 1964.
- Heber Kent Merrill** Assistant Professor of Psychology (1967)
B.A., M.A., Brigham Young University, 1960, 1961; Ph.D., University of Utah, 1968.
- M. David Merrill** Associate Professor of Educational Psychology (1966)
B.A., Brigham Young University, 1961; M.A., Ph.D., University of Illinois, 1964, 1964.
- Keith H. Meservy** Assistant Professor of Religious Instruction (1958)
B.A., Brigham Young University, 1951; M.A., Johns Hopkins University, 1966.

- Charles L. Metten** Associate Professor of Dramatic Arts (1962)
B.A., M.A., University of California at Los Angeles, 1951, 1952; Ph.D., State University of Iowa, 1960.
- Elaine Michaelis** Assistant Professor of Physical Education
B.S., M.S., Brigham Young University, 1960, 1962. for Women (1960)
- Susan Tout Michener** Instructor in Nursing (1968)
B.S., Brigham Young University, 1967.
- Louis C. Midgley** Associate Professor of Political Science (1963)
B.S., M.S., University of Utah, 1954, 1957; Ph.D., Brown University, 1964.
- Seymour Mikkelsen** Instructor in Animal Science;
B.S., Brigham Young University, 1948. Manager, Dairy Farm (1956)
- Elva K. Miller** Clinical Instructor in Education (1955)
B.S., Brigham Young University, 1947.
- J. Dale Miller** Associate Professor of French (1968)
A.B., Brigham Young University, 1947; M.A., Ph.D., University of Utah, 1951, 1964.
- Leslie W. Miller** Instructor in Athletics (1968)
B.S., Kansas State College, 1958.
- Martin L. Miller** Assistant Professor of Physics and Mathematics (1942)
B.A., M.A., Brigham Young University, 1942, 1950.
- Floyd Millet** Assistant Professor of Physical Education;
Director of Athletics (1964)
B.A., Brigham Young University, 1934; M.S., University of Southern California, 1939.
- Marion T. Millett** Associate Professor of Geography (1958)
B.A., University of Southern California, 1954; M.A., University of Colorado, 1956; Ph.D. McGill University, Canada, 1965.
- Major Eugene B. Mills** Assistant Professor of Military Science (1968)
B.S., University of Nevada, 1956.
- Gayle F. Miner** Associate Professor of Electrical Engineering (1960)
B.S., M.S., University of Utah, 1959, 1960; Ph.D., University of California, Berkeley, 1969.
- Albert O. Mitchell** Professor of Dramatic Arts (1956)
B.S., M.S., University of Utah, 1933, 1935; Ph.D., University of Wisconsin, 1938.
- Olive Kimball B. Mitchell** Assistant Professor of English (1947)
B.A., University of Arizona, 1932; M.A., Brigham Young University, 1934.
- Rudy Moe** Assistant Professor of Physical Education (1959)
B.A., Concordia College, Moorhead, Minnesota, 1953; M.S., Brigham Young University, 1962.
- J. C. Moffitt** Professor of Educational Administration (1953)
B.S., M.S., Brigham Young University, 1926, 1929; Ph.D., University of Chicago, 1940.
- J. Weldon Moffitt** Professor of Psychology (1963)
B.S., Brigham Young University, 1949; M.S., University of Utah, 1950; Ph.D., University of Illinois, 1953.
- Carolee Moncur** Instructor in Health Sciences (1967)
B.S., M.S., Brigham Young University, 1962, 1966.
- Darrel J. Monson** Associate Professor of Electrical Engineering;
Director, Communication Services (1956)
B.S., University of Utah, 1943; M.S., University of California (Berkeley), 1952.
- David D. Montgomery** Assistant Professor of History (1969)
B.A., Brigham Young University, 1961; M.A., Indiana University, 1966.
- Harold K. Moon** Associate Professor of Spanish (1963)
B.A., M.A., Brigham Young University, 1957, 1959; Ph.D., Syracuse University, 1963.
- Glen Moore** Professor of Botany (1958)
B.S., Brigham Young University, 1949; Ph.D., University of Chicago, 1954.
- Hal G. Moore** Associate Professor of Mathematics (1961)
B.S., M.S., University of Utah, 1952, 1957; Ph.D., University of California (Santa Barbara), 1967.
- Paul Caine Moore** Assistant Professor of Speech (1966)
B.S., M.S., University of Utah, 1951, 1958.
- Bruce Lee Morgenegg** Instructor in Physical Education for Men (1966)
B.S., Colorado State University, 1964; M.S., Brigham Young University, 1965.
- Alonzo J. Morley** Professor of Speech (1928)
B.A., M.A., Brigham Young University, 1925, 1931; Ph.D., University of Iowa, 1935.
- Edwin B. Morrell** Associate Professor of Political Science (1961)
B.A., Brigham Young University, 1956; M.A., Ph.D., Harvard University, 1959, 1966.

- Jeannette Morrell** Assistant Professor of English (1956)
B.A., M.A., University of Utah, 1933, 1935.
- A. Reed Morrill** Professor of Educational Administration (1948)
B.S., M.S., Brigham Young University, 1928, 1937; Ed.D., University of Oregon, 1948.
- Reed S. Morrill** Counselor in Counseling Center; Instructor in Psychology (1964)
B.A., Brigham Young University, 1956; M.S., University of Utah, 1964.
- Kay S. Mortensen** Assistant Professor of Industrial Technology (1968)
B.S., M.S., Utah State University, 1962, 1963; Ph.D., University of Utah, 1967.
- Darrell L. Moses** Associate Professor of Educational Psychology (1959)
B.A., M.A., University of Utah, 1952, 1953; Ph.D., University of Southern California, 1960.
- J. Joel Moss** Professor of Child Development and Family Relationships (1961)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., University of North Carolina, 1954.
- Captain James A. Moss, Jr.** Assistant Professor of Aerospace Studies (1969)
B.S., Brigham Young University, 1963.
- Marjorie Jo Mueller** Instructor in Library Science (1967)
B.S., Arizona State College, 1962; M.A., University of Denver, 1963.
- Chihoko Kitano Muranaka** Instructor in Japanese (1968)
B.A., National Kobe University, 1961; M.A., Brigham Young University, 1967.
- J. Larry Murdock** Instructor in Library Science (1968)
B.S., Brigham Young University, 1964; AMLS, University of Michigan, 1965.
- Joseph R. Murdock** Professor of Botany (1952)
B.S., M.S., Brigham Young University, 1949, 1950; Ph.D., Washington State University, 1956.
- Elaine P. Murphy** Assistant Professor of Nursing; Acting Dean of the College of Nursing (1967)
R.N., B.S., M.S., University of Utah, 1948, 1959, 1963.
- Joseph R. Murphy** Professor of Zoology (1960)
B.A., M.A., Brigham Young University, 1950, 1951; Ph.D., University of Nebraska, 1957.
- Merlin G. Myers** Associate Professor of Anthropology and Archaeology (1963)
B.A., Brigham Young University, 1951; Ph.D., University of Cambridge, 1963.
- Beverley Nalder** Instructor in Sociology; Counselor (1965)
B.S., Brigham Young University, 1952; M.S., University of Utah, 1965.
- Clyde R. Naylor** Assistant Professor of Civil Engineering (1964)
BES, M.S., Brigham Young University, 1960, 1962; Registered Engineer, Utah, 1964.
- Jay H. Naylor** Assistant Professor of Recreation Education (1961)
B.S., M.S., Brigham Young University, 1958, 1959.
- Donald K. Nelson** Assistant Professor of Library Science; Director of the Library (1961)
B.S., Utah State University, 1938; MBA, University of Denver, 1949.
- George Edward Nelson** Assistant Professor of Business Education (1968)
B.S., M.S., University of Utah, 1965, 1966; Ed.D., Arizona State University, 1968.
- Glen T. Nelson** Professor of Economics (1954)
B.S., M.S., Utah State University, 1942, 1948; Ph.D., University of Illinois, 1950.
- H. Mark Nelson** Professor of Physics (1959)
B.S., M.S., Brigham Young University, 1953, 1954; Ph.D., Harvard University, 1960.
- K. LeRoi Nelson** Professor of Chemistry (1956)
B.S., Utah State University, 1948; Ph.D., Purdue University, 1952.
- Marvin N. Nelson** Clinical Instructor in Elementary Education (1959)
B.S., M.S., Brigham Young University, 1951, 1961.
- Parley W. Newman** Professor of Speech (1966)
B.S., M.S., Utah State University, 1950, 1951; Ph.D., State University of Iowa, 1954.
- Hugh W. Nibley** Professor of History and Religion (1946)
B.A., University of California at Los Angeles, 1934; Ph.D., University of California, 1938.
- Reid N. Nibley** Professor of Music (1969)
BFA, M.A., University of Utah, 1950, 1953; DMA, University of Michigan, 1964.
- Henry J. Nicholes** Professor of Zoology (1946)
B.A., Brigham Young University, 1935; Ph.D., University of Wisconsin, 1941.

- Fred K. Nielsen** Assistant Professor of Physics (1956)
B.A., M.A., Harvard University, 1954, 1955.
- Lorna R. Nielsen** Assistant Professor of English (1961)
B.A., M.A., Brigham Young University, 1956, 1962.
- Eve Nielson** Instructor in Library Science (1949)
B.S., Utah State University, 1945; M.S., University of Southern California, 1959.
- Howard C. Nielson** Professor of Statistics (1957)
B.S., University of Utah, 1947; M.S., University of Oregon, 1949; MBA, Ph.D., Stanford University, 1956, 1957.
- Dale LeRoy Nish** Assistant Professor of Industrial Education (1967)
B.S., M.S., Brigham Young University, 1957, 1958; Ed.D., Washington State University, 1967.
- John D. Nixon** Instructor in Library Science (1961)
B.S., Brigham Young University, 1957; M.A., University of Denver, 1961.
- Quentin R. Nordgren** Professor of Music (1955)
B.A., M.A., Brigham Young University, 1942, 1950; Ph.D., Indiana University, 1955.
- Theodore A. Norman** Assistant Professor of Computer Science (1969)
B.S., University of Utah, 1962; M.S., Washington State University, 1968.
- James A. North** Associate Professor of Microbiology (1965)
B.S., M.S., Brigham Young University, 1958, 1960; Ph.D., University of Utah, 1964.
- Don Evan Norton** Instructor in English (1967)
B.A., M.A., Brigham Young University, 1959, 1961.
- Peter A. Nyberg** Assistant Professor of Zoology (1968)
B.S., M.S., Utah State University, 1962, 1964; Ph.D., Oregon State University, 1967.
- Monte S. Nyman** Assistant Professor of Religious Instruction (1966)
B.S., M.S., Utah State University, 1952, 1958; Ed.D., Brigham Young University, 1965.
- Clinton L. Oaks** Professor of Business Management (1957)
B.A., Brigham Young University, 1948; MBA, Ph.D., Stanford University, 1950, 1955.
- J. Lloyd Olpin** Associate Professor of Mathematics (1955)
B.S., Brigham Young University, 1925; M.S., Colorado University, 1938.
- Burton K. Olsen** Assistant Professor of Recreation Education (1965)
B.S., M.S., Brigham Young University, 1963, 1964; Ph.D., University of Minnesota, 1969.
- Larry D. Olsen** Instructor in Youth Leadership (1969)
B.A., Brigham Young University, 1967.
- Ernest L. Olson** Assistant Professor of English; Director of University Press (1953)
B.A., M.A., University of Utah, 1948, 1949.
- John E. Ord** Associate Professor of Elementary Education (1957)
B.S., Utah State University, 1940; M.S., University of Utah, 1949; Ed.D., Stanford University, 1958.
- Leon E. Orme** Professor of Animal Science (1969)
B.S., Utah State University, 1953; M.S., University of Tennessee, 1955; Ph.D., Michigan State University, 1958.
- Scott G. Orrock** Instructor in Child Development and Family Relationships; Counselor in Counseling Center (1953)
B.A., M.A., Brigham Young University, 1952, 1953.
- Bryce B. Orton** Professor of Accounting; Assistant Dean, College of Business (1961)
B.S., Brigham Young University, 1951; MBA, University of Oregon, 1957; DBA, University of Washington, 1962.
- Virgus C. Osborne** Instructor in General Curriculum (1964)
A.A., Snow College, 1944; B.A., Brigham Young University, 1950.
- J. Bevan Ott** Professor of Chemistry (1960)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of California, 1959.
- Glen F. Ovard** Professor of Educational Administration (1959)
B.S., M.S., Brigham Young University, 1949, 1954; Ed.D., Stanford University, 1959.
- Earl LeRoy Overstreet** Assistant Professor of Health Sciences (1967)
B.S., Brigham Young University, 1961; M.S., University of Utah, 1964; Ed.D., West Virginia University, 1967.
- Ronald T. Pace** Instructor in Animal Science (1961)
B.S., M.S., Brigham Young University, 1955, 1958.
- Russell T. Pack** Assistant Professor of Chemistry (1967)
B.S., Brigham Young University, 1962; Ph.D., University of Wisconsin, 1967.

- Thane J. Packer** Associate Professor of Youth Leadership and Recreation Education (1959)
B.S., Utah State University, 1939; M.S., Brigham Young University, 1953.
- Edna Page** Professor of Food Science and Nutrition (1966)
B.S., Utah State University, 1934; M.A., Columbia University, 1940; Ph.D., University of Wisconsin, 1952.
- E. Mack Palmer** Chairman of Home Study (1967)
A.A., Weber College, 1950; B.A., M.Ed., Brigham Young University, 1958, 1964.
- E. Paul Palmer** Associate Professor of Physics (1966)
B.A., Ph.D., University of Utah, 1952, 1956.
- Gary K. Palmer** Instructor in Recreation Education (1969)
B.S., M.R.Ed., Brigham Young University, 1966, 1967.
- Glen O. Palmer** Instructor in Accounting (1964)
B.S., M.Acctg., Brigham Young University, 1961, 1963; CPA, State of New Mexico, 1963.
- Spencer J. Palmer** Professor of History of Religion (1962)
B.A., Brigham Young University, 1952; M.A., Ph.D., University of California (Berkeley), 1959, 1964.
- Robert Lynn Park** Associate Professor of Animal Science (1965)
B.S., Brigham Young University, 1956; M.S., Ph.D., Cornell University, 1958, 1962.
- Joyce Parrish** Instructor in Library Science (1965)
B.S., Utah State University, 1958; M.Ed., Brigham Young University, 1969.
- Robert E. Parsons** Assistant Professor of Religious Instruction (1964)
B.S., M.S., Brigham Young University, 1954, 1957.
- Robert C. Patch** Associate Professor of Scripture (1959)
B.A., University of New Mexico, 1945; M.Th., Ph.D., Brigham Young University, 1949, 1964.
- Edward G. Paul** Associate Professor of Chemistry (1964)
B.S., Ph.D., University of Utah, 1958, 1962.
- Ernest B. Paxson, Jr.** Associate Professor of Mechanical Engineering Science (1969)
B.A., B.S., Rice University, 1957, 1958; M.S., Ph.D., Stanford University, 1959, 1963.
- I. Reed Payne** Associate Professor of Psychology (1964)
B.S., Brigham Young University, 1956; M.S., Ph.D., Pennsylvania State University, 1958, 1963.
- John W. Payne** Associate Professor of Sociology (1947)
B.A., M.A., Brigham Young University, 1936, 1948.
- William D. Payne** Instructor in Sociology (1968)
B.A., M.S., Brigham Young University, 1966, 1967.
- Wayne E. Pearce** Instructor in Business Management; Tennis Coach (1963)
B.S., MBA, University of Utah, 1960, 1961.
- Glenn L. Pearson** Associate Professor of Scripture (1951)
B.S., Utah State University, 1949; M.A., Brigham Young University, 1951.
- Darhl M. Pedersen** Associate Professor of Psychology (1962)
B.S., M.S., Brigham Young University, 1957, 1958; Ph.D., University of Illinois, 1962.
- Devern J. Perry** Assistant Professor of Business Education (1963)
B.S., M.S., Brigham Young University, 1958, 1962; Ed.D., University of North Dakota, 1968.
- Betty J. Petersen** Associate Professor of Business Education (1963)
B.S., Utah State University, 1958; M.A., Columbia University, 1960.
- Melvin J. Petersen** Assistant Professor of Religious Instruction (1964)
B.S., M.S., Ed.D., Brigham Young University, 1948, 1955, 1964.
- Morris S. Petersen** Associate Professor of Geology (1966)
B.S., M.S., Brigham Young University, 1955, 1956; Ph.D., University of Iowa, 1962.
- Ray A. Petersen** Assistant Professor of Health Sciences (1969)
B.S., M.H.Ed., Brigham Young University, 1960, 1965.
- Dean A. Peterson** Professor of Business Education; Administrative Assistant to the President; Director of Summer School (1942)
B.S., Brigham Young University, 1938; M.S., Ed.D., University of Southern California, 1942, 1959.
- Elwood R. Peterson** Instructor in Education; Counselor in Counseling Center (1964)
B.A., M.A., Brigham Young University, 1957, 1962; Ph.D., University of Colorado, 1969.
- Eva O. Peterson** Clinical Instructor in Education (1968)
B.S., College of Southern Utah, 1959.

- Evan T. Peterson** Professor of Sociology (1959)
B.S., M.S., Brigham Young University, 1952, 1953; Ph.D., University of Michigan, 1959.
- H. Donl Peterson** Associate Professor of Religious Instruction (1964)
B.S., M.Ed., Brigham Young University, 1954, 1960; Ed.D., Washington State University, 1965.
- John M. Peterson** Associate Professor of Mathematics (1965)
B.S., M.S., Ed.D., Utah State University, 1961, 1964, 1965.
- Stanley A. Peterson** Chairman of BYU-California Center (1968)
B.S., Brigham Young University, 1960; M.A., California State University, 1965.
- Robert Douglas Phillips** Assistant Professor of Classical Languages (1966)
B.A., Brigham Young University, 1962; M.A., University of Illinois, 1964.
- W. Revell Phillips** Professor of Geology (1957)
B.S., M.S., Ph.D., University of Utah, 1950, 1951, 1954.
- Rex D. Pinegar** Associate Professor of Special Education (1965)
B.S., Brigham Young University, 1958; M.A., San Francisco State College, 1962.
- James Kent Pinney** Associate Professor of Business Management (1967)
B.A., University of Utah, 1962; MBA, DBA, Indiana University, 1964, 1968.
- Paul C. Pollei** Instructor in Music (1963)
B.M., University of Utah, 1961; M.M., University of Rochester, 1962.
- J. Perry Polson** Associate Professor of Business Education (1952)
B.S., M.S., University of Utah, 1947, 1952; Ed.D., University of Southern California, 1961.
- James H. Polve** Professor of Mechanical Engineering Science (1969)
B.S., University of Utah, 1948; M.S., Princeton University, 1951; Ph.D., University of Arizona, 1966.
- Bill J. Pope** Professor of Chemical Engineering (1958)
B.S., University of Utah, 1947; M.S., Ph.D., University of Washington, 1948, 1959.
- Karl Theodore Pope** Assistant Professor of Dramatic Arts (1966)
B.A., M.A., Brigham Young University, 1962, 1964; Ph.D., Wayne State University, 1966.
- Blaine R. Porter** Professor of Child Development and Family Relationships; Dean of the College of Family Living (1955)
B.S., M.A., Brigham Young University, 1947, 1949; Ph.D., Cornell University, 1952.
- Norma Potter** Assistant Professor of Nursing (1953)
Diploma, Latter-day Saints Hospital, Salt Lake City, 1931; B.S., University of Utah, 1950; M.N., University of Washington, 1961.
- D. Chris Poulos** Chairman of Education Weeks (1958)
B.S., M.S., Brigham Young University, 1957, 1962.
- Jenniev J. Poulson** Associate Professor of Family Economics and Home Management (1963)
B.S., Brigham Young University, 1933; M.S., Ph.D., Iowa State University, 1954, 1964.
- Virginia B. Poulson** Assistant Professor of Home Economics Education (1950)
B.S., Brigham Young University, 1931; M.Ed., Colorado A&M, 1955.
- E. Harrison Powley** Assistant Professor of Music (1969)
B.M., M.A., Eastman School of Music, 1965, 1968.
- David Heber Pratt** Instructor in Genealogical Technology (1966)
B.A., M.S., Brigham Young University, 1963, 1969.
- Alvin Harold Price** Assistant Professor of Child Development and Family Relationships (1966)
B.S., Brigham Young University, 1960; M.A., Ph.D., University of Minnesota, 1963, 1966.
- B. Michael Pritchett** Assistant Professor of Economics (1969)
B.S., Brigham Young University, 1955; M.S., Ph.D., Purdue University, 1967, 1969.
- Clyde Lee Pritchett** Instructor in Zoology (1967)
B.S., M.S., Brigham Young University, 1960, 1962.
- Della D. Provost** Clinical Instructor in Elementary Education (1964)
B.S., University of Utah, 1957.
- Eldon H. Puckett** Assistant Professor of Education (1965)
B.A., Ed.D., Brigham Young University, 1949, 1967.
- Lt. Colonel Elwin D. Pulsipher** Associate Professor of Military Science (1968)
B.S., University of Nevada, 1953; MBA, University of Alabama, 1967.
- Victor W. Purdy** Assistant Professor of Library and Information Sciences (1954)
B.S., Brigham Young University, 1952; M.S., Columbia University, 1957.

- Ernest Max Raisor** Instructor in Industrial Technology (1969)
B.S., Brigham Young University, 1968.
- Mima Rasband** Clinical Instructor in Education (1952)
B.S., M.S., Brigham Young University, 1937, 1950.
- Ellis T. Rasmussen** Associate Professor of Old Testament Languages
and Literature (1951)
B.S., M.A., Ph.D., Brigham Young University, 1942, 1951, 1967.
- Thomas L. Raty** Instructor in Art (1963)
B.S., M.S., Brigham Young University, 1950, 1961.
- Lynn A. Ravsten** Counselor in Counseling Center; Assistant Professor
of Educational Psychology (1957)
B.S., Brigham Young University, 1953; M.A., Stanford University, 1956; Ph.D.,
University of Utah, 1966.
- Gordon Webb Rawlins** Instructor in Library Science (1968)
B.A., M.L.S., Brigham Young University, 1966, 1968.
- Susan E. Ream** Instructor in English (1961)
B.A., Brigham Young University, 1953; M.A., Columbia Teachers College, 1958.
- Jesse W. Reeder** Professor of History and Political Science (1952)
B.S., M.S., Utah State University, 1934, 1937; Ph.D., Cornell University, 1952.
- Howard T. Reid** Professor of Personnel and Guidance (1953)
B.A., Brigham Young University, 1940; M.S., Ed.D., University of Southern California,
1947, 1949.
- Ernest F. Reimschuessel** Associate Professor of Horticulture (1942)
B.A., M.S., Brigham Young University, 1940, 1951.
- Alvin C. Rencher** Assistant Professor of Statistics (1963)
B.S., M.A., Brigham Young University, 1959, 1962; Ph.D., Virginia Polytechnic Institute,
1968.
- Ronald L. Rhodes** Assistant Professor of Health Sciences (1962)
B.S., Elmhurst College, 1957; M.S., Brigham Young University, 1962.
- Owen S. Rich** Professor of Communications (1950)
B.S., Brigham Young University, 1950; M.A., University of Southern California,
1953; Ed.D., Pennsylvania State University, 1963.
- Russell R. Rich** Professor of History of Religion (1953)
B.S., Utah State University, 1936; M.A., Brigham Young University, 1949; Ed.D.,
University of Wyoming, 1955.
- Dale O. Richards** Professor of Statistics (1963)
B.S., Utah State University, 1950; M.S., Ph.D., Iowa State University, 1957, 1963.
- J. Morris Richards** Associate Professor of Communications (1965)
B.A., Arizona State College, 1929; M.A., University of Arizona, 1937.
- Jed J. Richardson** Assistant Professor of Speech (1955)
B.S., M.S., Utah State University, 1950, 1955.
- Norma Richardson** Instructor in Associate-Degree Nursing (1967)
B.S., University of Utah, 1956; M.A., New York University, 1966.
- Dean Rickenbach** Associate Professor of Economics (1963)
B.S., Brigham Young University, 1954; M.S., Stanford University, 1957; Ph.D.,
Indiana University, 1963.
- Eldin Ricks** Assistant Professor of Religious Instruction (1949)
B.S., Brigham Young University, 1941; M.A., University of Southern California, 1949.
- Chauncey C. Riddle** Professor of Philosophy; Dean
of the Graduate School (1952)
B.S., Brigham Young University, 1947; M.A., Columbia University, 1951; Ph.D.,
Columbia University, 1958.
- Ted E. Ridenhour** Assistant Professor of English (1959)
B.A., M.A., Brigham Young University, 1957, 1960.
- J. Keith Rigby** Professor of Geology (1953)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., Columbia University, 1952.
- W. Dean Rigby** Instructor in General Curriculum (1966)
B.A., Brigham Young University, 1953.
- S. Kenneth Robbins** Supervisor at BYU-Salt Lake Center (1966)
B.S., M.S., University of Utah, 1957, 1959.
- Marvin Roberson** Instructor in Physical Education for Men (1966)
B.S., Brigham Young University, 1957; M.S., Stanford University, 1963.
- Barbara T. Robinson** Instructor in Nursing (1969)
B.S., Brigham Young University, 1967; M.S., University of Utah, 1969.

- Burton W. Robinson** Professor of Clinical Psychology (1955)
B.S., M.S., Utah State University, 1951; Ph.D., Purdue University, 1954.
- Donald W. Robinson** Professor of Mathematics (1956)
B.S., M.A., University of Utah, 1948, 1952; Ph.D., Case Institute of Technology, 1956.
- Paul Wm. Robinson** Assistant Professor of Psychology (1969)
B.S., M.S., Utah State University, 1965, 1967.
- Phileon B. Robinson, Jr.** Assistant Professor of Education;
Coordinator of Continuing Education (1959)
B.S., Brigham Young University, 1945; MBA, Northwestern University, 1946.
- Clarence F. Robison** Associate Professor of Health Sciences;
Head Track Coach (1948)
B.S., Brigham Young University, 1949; M.S., University of Michigan, 1954.
- Carla Sevy Rogers** Instructor in Environmental Design (1967)
B.S., Brigham Young University, 1961; M.S., Iowa State University, 1967.
- R. Max Rogers** Professor of German; Assistant Dean,
College of Humanities (1945)
B.A., M.A., Brigham Young University, 1940, 1942; Ph.D., Stanford University, 1951.
- Thomas F. Rogers** Associate Professor of Germanic and
Slavic Languages (1969)
B.A., University of Utah, 1955; M.A., Yale University, 1962; Ph.D., Georgetown University, 1968.
- Vern Child Rogers** Assistant Professor of Chemical Engineering (1969)
B.S., M.S., University of Utah, 1965, 1965; Ph.D., Massachusetts Institute of Technology, 1969.
- Norma Rohde** Associate Professor of Educational Psychology; Counselor
in Counseling Center (1965)
B.A., University of Utah, 1949; M.A., Columbia University, 1958; Ed.D., Brigham Young University, 1965.
- Boyd C. Rollins** Associate Professor of Child Development and Family
Relationships (1963)
B.S., Utah State University, 1953; M.S., Brigham Young University, 1958; Ph.D., Cornell University, 1961.
- Leslie McKay Rollins** Assistant Professor of Health Sciences (1962)
B.S., M.S., Brigham Young University, 1961, 1962.
- Ralph L. Rollins** Professor of Civil Engineering (1956)
B.S., M.S., Utah State University, 1941, 1949; Ph.D., Iowa State University, 1954;
Registered Engineer, Utah, 1958, Nevada, 1967.
- Antone K. Romney** Distinguished Professor of Comparative Education;
Dean Emeritus of the College of Education (1945)
B.S., M.S., Brigham Young University, 1933, 1934; Ed.D., Stanford University, 1947.
- Keith L. Roos** Assistant Professor of German (1968)
B.A., University of Utah, 1964; Ph.D., Rice University, 1968.
- Orson B. Roper** Supervisor at BYU-Ogden Center (1965)
B.S., M.S., Utah State University, 1960, 1961.
- Harold E. Rosen** Associate Professor of Spanish (1963)
B.A., M.A., Brigham Young University, 1954, 1959; Ph.D., University of Oregon, 1966.
- Elmo S. Roundy** Associate Professor of Physical Education (1963)
B.S., M.Ed., Brigham Young University, 1953, 1956; Ed.D., University of California at Los Angeles, 1965.
- Lorene N. Russell** Instructor in Nursing (1968)
B.S., Brigham Young University, 1967.
- Richard D. Sagers** Professor of Microbiology (1958)
B.S., M.S., Brigham Young University, 1954, 1955; Ph.D., University of Illinois, 1958.
- Richard D. Salazar** Instructor in Health Sciences (1963)
B.S., M.S., Brigham Young University, 1958, 1962.
- Carma Sandberg** Clinical Instructor in Education (1957)
B.A., M.A., Brigham Young University, 1932, 1960.
- Sandra Lynne Sandberg** Instructor in General Curriculum (1969)
B.S., M.S., Brigham Young University, 1963, 1967.
- Clyde D. Sandgren** Vice-President and General Counsel;
Professor of Political Science (1954)
B.S., Brigham Young University, 1937; LL.B., J.D., St. John's University, 1939, 1968.
- Francis Santiago** Assistant Professor of Continuing Education; Chairman,
Evening Classes, in Division of Continuing Education (1969)
M.A., Brigham Young University, 1967; Ed.D., Arizona State University, 1969.

- Lawrence W. Sardoni** Professor of Music (1945)
B.A., M.A., Brigham Young University, 1935, 1946.
- Alice M. Schmidt** Assistant Professor of Nursing (1965)
B.S., State University of Iowa, 1947; M.S., Brigham Young University, 1964.
- Donald T. Schmidt** Assistant Professor of Library Science (1959)
B.A., M.A., State University of Iowa, 1947, 1949; M.A., University of Denver, 1964.
- Richard Schmutz** Assistant Professor of History (1966)
B.A., San Fernando State College, 1960; Ph.D., University of Southern California, 1966.
- June Searle** Clinical Instructor in Education (1961)
B.S., Brigham Young University, 1958.
- John F. A. Seggar** Assistant Professor of Sociology (1966)
B.S., Brigham Young University, 1962; M.A., Ph.D., University of Kentucky, 1964, 1968.
- Milton L. Sharp** Chairman of Off-Campus Lectures and Courses (1965)
BBA, Woodbury College, 1954; B.S., M.A., Brigham Young University, 1962, 1967.
- Donald D. Shaw** Associate Professor of Health Sciences
and Recreation Education (1959)
B.A., M.S., Brigham Young University, 1957, 1961; Ed.D., Oregon State University, 1965.
- Lyman S. Shreeve, Sr.** Assistant Professor of Spanish (1965)
B.A., M.A., Brigham Young University, 1949, 1950.
- R. Phil Shumway** Professor of Animal Science (1949)
B.S., Utah State University, 1947; M.S., University of Minnesota, 1949; Ph.D., Utah State University, 1959.
- R. Wayne Shute** Assistant Professor of Education; Coordinator
of Continuing Education (1960)
B.S., M.Ed., Brigham Young University, 1955, 1959; Ed.D., University of Southern California, 1964.
- William R. Siddoway** Dean of Admissions and Records (1962)
B.S., University of Utah, 1955; MBA, Indiana University, 1956.
- L. Jay Silvester** Instructor in Physical Education (1969)
B.S., Utah State University, 1959.
- Elbert R. Simmons** Assistant Professor of Zoology (1956)
B.S., Utah State University, 1941; M.A., State University of Iowa, 1943.
- Val Eugene Simmons** Assistant Professor of Industrial Technology (1960)
B.S., University of Utah, 1964; M.S., Brigham Young University, 1967; Ph.D., Utah State University, 1970.
- John M. Simonsen** Professor of Mechanical Engineering (1954)
BSME, University of Utah, 1950; MSME, Ph.D., Purdue University, 1952, 1955; Registered Professional Engineer, Utah, 1957.
- R. Vencil Skarda, Jr.** Assistant Professor of Mathematics (1965)
B.A., Pomona College, 1961; M.S., Ph.D., California Institute of Technology, 1964, 1965.
- Rulon D. Skinner** Instructor in Youth Leadership (1969)
B.A., Brigham Young University, 1954.
- Karl M. Skousen** Professor of Accounting;
Chairman of Accounting Department (1958)
B.S., M.S., Brigham Young University, 1944, 1957; CPA, Utah, 1957; Ph.D., Michigan State University, 1962.
- W. Cleon Skousen** Associate Professor of Religious Instruction (1967)
LL.B., George Washington University, 1940.
- J. Keith Slade** Assistant Professor of French (1963)
B.A., University of Arizona, 1959; M.A., Brigham Young University, 1960.
- Arthur D. Slater** Assistant Professor of Personnel and Guidance;
Psychiatric Social Worker, Counseling Center (1956)
B.S., Brigham Young University, 1948; M.S., Tulane University, 1950.
- Robert H. Slover** Associate Professor of Political Science (1965)
B.A., University of Oklahoma, 1935; M.A., Ph.D., Harvard University, 1948, 1950.
- Merrill J. Smart** Assistant Professor of Electronics Engineering
Technology (1967)
B.S., Brigham Young University, 1959; M.S., University of Utah, 1962.
- Carol T. Smith** Assistant Professor of Library Science (1949)
B.A., Brigham Young University, 1940; M.S., University of Southern California, 1962.
- Gary Richard Smith** Assistant Professor of Business Education (1969)
B.A., M.A., Idaho State University, 1954, 1959; Ed.D., University of Idaho, 1969.

- Harold T. Smith** Assistant Professor of Business Education (1963)
B.A., M.A., Colorado State College, 1958, 1959; Ed.D., Brigham Young University, 1967.
- Howard Duane Smith** Assistant Professor of Zoology (1969)
B.S., M.S., Brigham Young University, 1963, 1966; Ph.D., University of Illinois, 1969.
- Kay H. Smith** Associate Professor of Psychology (1961)
B.A., M.A., Brigham Young University, 1957, 1958; Ph.D., Wayne State University, 1962.
- Keith L. Smith** Chairman of BYU-Salt Lake Center (1964)
B.S., University of Utah, 1949; M.A., Brigham Young University, 1968.
- Marion K. Smith** Instructor in English (1964)
B.A., M.A., Brigham Young University, 1961, 1966.
- Marvin A. Smith** Associate Professor of Chemistry (1966)
B.S., Utah State University, 1960; M.S., Ph.D., University of Wisconsin, 1962, 1966.
- Milton E. Smith** Instructor in Business Management (1966)
B.A., MBA, University of Utah, 1951, 1961.
- Murray F. Smith** Associate Professor of German (1962)
B.A., University of Utah, 1956; M.A., Ph.D., University of Southern California, 1961, 1967.
- Nathan M. Smith** Instructor in Library Science (1967)
B.S., Eastern Oregon College, 1961; M.S., Oregon State College, 1965.
- Oliver R. Smith** Professor of Communications (1938)
B.A., Brigham Young University, 1938; Ph.D., State University of Iowa, 1951.
- Ralph B. Smith** Professor of Education (1963)
B.S., Brigham Young University, 1943; M.A., University of Southern California, 1947; Ed.D., Brigham Young University, 1962.
- Robert Bailey Smith** Instructor in Music (1967)
B.A., M.A., Brigham Young University, 1957, 1967.
- Robert J. Smith** Professor of Accounting;
Assistant Academic Vice-President (1949)
B.S., Brigham Young University, 1948; MBA, Northwestern University, 1949; CPA, Illinois, 1949; CPA, Utah, 1950; DBA, Indiana University, 1957.
- Wilford E. Smith** Professor of Sociology (1948)
B.A., University of Utah, 1943; M.A., Brigham Young University, 1948; Ph.D., University of Washington, 1952.
- Rulon N. Smithson** Assistant Professor of French (1955)
B.A., M.A., Brigham Young University, 1954, 1955.
- Leon Douglas Smoot** Associate Professor of Chemical Engineering (1967)
B.S., Brigham Young University, 1957; M.S., Ph.D., University of Washington, 1958, 1960.
- Donald Ray Snow** Associate Professor of Mathematics (1969)
B.A., BSME, University of Utah, 1959, 1959; MSME, M.S., Ph.D., Stanford University, 1960, 1962, 1965.
- Glenn Gardner Snow** Associate Professor of Education (1969)
B.S., M.Ed., Brigham Young University, 1950, 1959; Ph.D., Michigan State University, 1969.
- Karl Nelson Snow, Jr.** Associate Professor of Political Science (1969)
B.S., Brigham Young University, 1956; M.A., University of Minnesota, 1958; MPA, University of Southern California, 1965.
- Richard L. Snow** Professor of Chemistry (1957)
B.S., Ph.D., University of Utah, 1953, 1957.
- Emory O. Sonderegger** Assistant Professor of Accounting (1960)
B.S., M.S., Brigham Young University, 1956, 1957; CPA, Utah, 1963.
- David M. Sorenson** Assistant Professor of Psychology (1969)
B.A., Brigham Young University, 1961; Ed.M., Harvard University, 1962; Ed.D., Harvard University, 1970.
- Trevor Southey** Instructor in Art (1969)
BFA, M.A., Brigham Young University, 1967, 1969.
- Irene Osmond Spears** Professor of Humanities and Comparative Literature (1936)
B.A., Brigham Young University, 1929; M.A., Ph.D., Stanford University, 1934, 1942.
- Walter H. Speidel** Associate Professor of German (1963)
Abitur, Germany, 1940; State Examination, Germany, 1948; M.A., University of Utah, 1960; Ph.D., University of Kansas, 1963.
- Berkley A. Spencer** Associate Professor of Sociology (1969)
B.A., M.A., Brigham Young University, 1960, 1962; Ph.D., Cornell University, 1967.

- Sidney B. Sperry** Professor of Old Testament Languages and Literature (1932)
B.A., University of Utah, 1917; M.A., Ph.D., University of Chicago, 1926, 1931.
- John Stephen Staley** Professor of Sociology (1969)
B.A., M.A., St. Vincent College, 1938, 1939; M.A., Catholic University of America, 1950; Ph.D., University of Pittsburgh, 1960.
- Melvin J. Stanford** Associate Professor of Business Management (1968)
B.S., Utah State University, 1957; MBA, Harvard University, 1963; Ph.D., University of Illinois, 1968.
- Eric G. Stephan** Associate Professor of Speech and Dramatic Arts (1968)
B.A., Brigham Young University, 1961; M.A., Indiana University, 1963; Ph.D., University of California at Los Angeles, 1969.
- Dale John Stevens** Assistant Professor of Geography (1966)
B.A., Brigham Young University, 1961; M.A., Indiana University, 1963; Ph.D., University of California at Los Angeles, 1969.
- J. Grant Stevenson** Assistant Professor of Religious Instruction (1964)
B.S., M.A., Brigham Young University, 1953, 1955.
- Duane W. Stewart** Instructor in Child Development and Family Relationships (1967)
A.S., College of Southern Utah, 1959; B.S., M.S., Brigham Young University, 1961, 1965.
- David V. Stimpson** Associate Professor of Psychology (1964)
B.S., M.S., Brigham Young University, 1959, 1960; Ph.D., University of California (Berkeley), 1964.
- Harold S. Stock** Assistant Professor of Aerospace Studies (1969)
B.S., Utah State University, 1961; MSME, Texas Agricultural and Mechanical University, 1965.
- Dayna L. Stocks** Associate Professor of Botany (1965)
B.S., Utah State University, 1956; M.S., University of Utah, 1960; Ph.D., Utah State University, 1964.
- Ted D. Stoddard** Associate Professor of Business Education (1969)
B.S., M.S., Brigham Young University, 1962, 1963; Ed.D., Arizona State University, 1967.
- Gordon E. Stokes** Special Instructor in Physics and Astronomy (1969)
B.S., Brigham Young University, 1961; M.S., University of Idaho, 1969.
- Royal B. Stone** Associate Professor of Youth Leadership (1967)
B.S., University of Utah, 1926.
- Dee Leon Storrs** Instructor in Library Science (1957)
B.S., Brigham Young University, 1953; M.S., University of Washington, 1957.
- Jane G. Storrs** Clinical Instructor in Education (1962)
B.S., M.S., Brigham Young University, 1946, 1960.
- W. Douglas Stout** Assistant Professor of Art (1969)
B.A., University of Utah, 1958; M.S., Illinois Institute of Technology, 1961.
- William J. Strong** Assistant Professor of Physics (1967)
B.S., M.S., Brigham Young University, 1958, 1959; Ph.D., Massachusetts Institute of Technology, 1964.
- Robert E. Struthers** Assistant Professor of Dramatic Arts (1953)
B.S., Utah State University, 1949; M.S., Brigham Young University, 1953.
- Darrel W. Stubbs** Associate Professor of Music (1962)
B.M., Eastman School of Music, 1949; M.M., Indiana University, 1952; DMA, University of Southern California, 1966.
- Howard C. Stutz** Professor of Botany (1953)
B.S., M.S., Brigham Young University, 1940, 1951; Ph.D., University of California (Berkeley), 1956.
- Floyd Sucher** Associate Professor of Education (1964)
B.S., Brigham Young University, 1954; M.A., Los Angeles State College, 1957; Ed.D., Colorado State College, 1963.
- Kenneth Rush Sumpter** Instructor in General Curriculum (1966)
B.A., M.A., Brigham Young University, 1964, 1969.
- Albert D. Swensen** Professor of Chemistry (1947)
B.A., M.A., Brigham Young University, 1937, 1938; Ph.D., Louisiana State University, 1941.
- Russel B. Swensen** Professor of History (1933)
B.A., Brigham Young University, 1926; M.A., Ph.D., University of Chicago, 1931, 1934.

- Joseph N. Symons** Professor of Sociology (1953)
B.S., M.S., Utah State University, 1927, 1932; Ph.D., University of Chicago, 1944.
- Fred Y. Takasaki** Instructor in Art (1961)
B.A., M.A., Brigham Young University, 1953, 1958.
- Walter D. Talbot** Professor of Education (1969)
B.S., Ed.D., Utah State University, 1949, 1966; M.S., University of Utah, 1952.
- Carol Ellen Talmage** Instructor in Associate Degree Nursing (1969)
Three-year Diploma, University of Utah, 1948; B.S., Brigham Young University, 1950.
- Wilmer W. Tanner** Professor of Zoology (1949)
B.A., M.A., Brigham Young University, 1936, 1937; Ph.D., University of Kansas, 1949.
- Norman Tarbox** Assistant Professor of Communications (1960)
B.S., University of Utah, 1955; M.S., Syracuse University, 1956.
- Kenneth R. Tarr** Instructor in French (1964)
B.A., M.A., Brigham Young University, 1962, 1965.
- Charles D. Tate, Jr.** Associate Professor of English (1960)
B.S., M.S., Utah State University, 1954, 1958; Ph.D., University of Colorado, 1966.
- Lucile C. Tate** Instructor in Humanities (1967)
B.A., M.A., Brigham Young University, 1964, 1967.
- Barbara Taylor** Assistant Professor of Child Development and
Family Relationships (1957)
B.S., M.S., Brigham Young University, 1957, 1960.
- Celestia J. Taylor** Instructor in English (1959)
B.A., M.A., Brigham Young University, 1925, 1953.
- Dale H. Taylor** Professor of Accounting (1963)
B.A., M.A., Brigham Young University, 1951, 1953; CPA, Illinois, 1955; Ph.D.
Northwestern University, 1963.
- Gerry L. S. Taylor** Instructor in Library Science (1968)
B.S., University of Utah, 1963; MLS, Brigham Young University, 1968.
- Hal L. Taylor** Assistant Professor of Religious Instruction (1969)
B.S., M.S., Brigham Young University, 1951, 1962.
- James S. Taylor** Assistant Professor of Spanish (1962)
B.A., M.A., Brigham Young University, 1957, 1960; Ph.D., Ohio State University,
1967.
- Josephine C. Taylor** Instructor in Library Science (1960)
B.A., Brigham Young University, 1959; M.A., University of Southern California, 1960.
- Keith L. Taylor** Supervisor at BYU-Salt Lake Center (1964)
B.S., University of Utah, 1947; M.A., University of Hawaii, 1950.
- L. John Taylor** Instructor in English (1961)
B.S., University of Utah, 1958; M.A., Brigham Young University, 1960.
- Stanley Taylor** Associate Professor of Political Science (1968)
B.S., Brigham Young University, 1959; MALD, Ph.D., Fletcher School of Law and
Diplomacy, 1961, 1968.
- Weldon J. Taylor** Professor of Marketing; Dean of the College of
Business (1937)
B.S., Brigham Young University, 1934; MBA, Harvard Graduate School of Business
Administration, 1937; Ph.D., Graduate School of Business Administration, New York
University, 1955.
- Elvis B. Terry** Assistant Professor of Music (1957)
B.S., M.S., Brigham Young University, 1933, 1950.
- Douglas H. Thayer** Assistant Professor of English (1957)
B.A., Brigham Young University, 1955; M.A., Stanford University, 1959; MFA, State
University of Iowa, 1962.
- Glen E. Thomas** Assistant Professor of Education (1968)
B.S., M.Ed., University of Idaho, 1954, 1957; Ed.D., Colorado State College, 1968.
- John A. Thomas** Associate Professor of English (1962)
B.A., M.A., Brigham Young University, 1953, 1954; Ph.D., University of Maryland,
1962.
- Robert K. Thomas** Professor of English; Academic Vice-President (1951)
B.A., Reed College, 1947; M.A., University of Oregon, 1949; Ph.D., Columbia University,
1967.
- Lois R. Thompson** Instructor in Nursing (1969)
B.A., Jersey City State College, 1967; M.H.Ed., Brigham Young University, 1969.
- Lowell D. Thomson** Associate Professor of Education (1958)
A.B., Humboldt State College, 1952; M.S.Ed., University of Utah, 1958.

- Woodruff C. Thomson** Professor of English (1950)
B.A., M.A., Ph.D., University of Utah, 1938, 1949, 1962.
- Dennis Eugene Thorne** Assistant Professor of Psychology (1966)
B.S., Brigham Young University, 1962; M.A., Ph.D., University of Utah, 1965, 1966.
- James M. Thorne** Assistant Professor of Chemistry (1966)
B.S., Brigham Young University, 1962; M.A., Ph.D., University of Utah, 1965, 1966.
- Lucile Markham Thorne** Associate Professor of Library and
Information Sciences (1950)
B.A., M.Ed., Ed.D., Brigham Young University, 1929, 1956, 1967; M.S., University of
Southern California, 1958.
- Malcolm R. Thorp** Instructor in History (1969)
B.S., M.A., Brigham Young University, 1964, 1967.
- Clark T. Thorstenson** Assistant Professor of Recreation Education (1969)
B.S., M.R.Ed., Brigham Young University, 1962, 1965; Ph.D., University of Utah, 1969.
- Glen Stoker Thurgood** Instructor in Civil Engineering (1967)
B.S., M.S., Brigham Young University, 1965, 1967.
- Dick W. Thurston** Assistant Dean, College of Physical
and Engineering Sciences (1969)
B.S., U.S. Naval Academy, 1950; B.S., U.S. Naval Postgraduate School, 1957; Engr.,
Caltech, 1958.
- Alton L. Thygeson** Assistant Professor of Health Education (1967)
B.S., M.H.Ed., Ed.D., Brigham Young University, 1962, 1965, 1969.
- William D. Tidwell** Assistant Professor of Botany (1966)
B.S., M.S., Brigham Young University, 1954, 1963; Ph.D., Michigan State University,
1966.
- Chloe Ann Tillery** Assistant Professor of Nursing (1968)
B.S., Brigham Young University, 1958.
- Helen J. Tingey** Instructor in Business Education (1965)
B.S., M.S., Brigham Young University, 1955, 1965.
- Frank M. Tippetts** Associate Professor of Art (1958)
B.A., M.A., Brigham Young University, 1953, 1962; Ed.D., Arizona State University,
1968.
- Vernon J. Tipton** Associate Professor of Zoology (1968)
B.S., M.S., Brigham Young University, 1948, 1949; Ph.D., University of California
(Berkeley), 1959.
- Douglas F. Tobler** Assistant Professor of History (1967)
B.A., M.A., Brigham Young University, 1961, 1962; Ph.D., University of Kansas,
1967.
- Lawrence K. Tolman** Assistant Professor of Mathematics (1965)
B.S., M.S., Brigham Young University, 1960, 1961.
- Wilford J. Tolman** Assistant Professor of Industrial Technology (1960)
B.S., M.S., Brigham Young University, 1960, 1964.
- Karl L. Tucker** Instructor in Physical Education; Golf Coach (1961)
B.S., M.S., Brigham Young University, 1952, 1964.
- Glen C. Tuckett** Assistant Professor of Health Science;
Baseball Coach (1959)
B.S., M.S., University of Utah, 1953, 1962.
- F. Lamond Tullis** Assistant Professor of Political Science (1969)
B.A., M.A., Brigham Young University, 1961, 1964; MPA, Ph.D., Harvard University,
1965, 1969.
- Grant William Turnblom** Instructor in Library Science (1969)
B.A., M.S., Brigham Young University, 1964, 1969.
- Glen H. Turner** Professor of Art (1947)
B.S., M.A., Brigham Young University, 1940, 1948.
- LeVell G. W. Turner** Instructor in Food Science and Nutrition (1963)
B.S., Brigham Young University, 1954; M.S., University of Wisconsin, 1959.
- Rodney Turner** Professor of Religious Instruction (1956)
B.A., M.A., Brigham Young University, 1949, 1953; Ed.D., University of Southern
California, 1960.
- L. Elliott Tuttle** Associate Professor of Geography (1936)
B.S., M.S., Brigham Young University, 1938, 1948.
- Ottella W. Tyndall** Instructor in Child Development and Family
Relationships (1959)
B.S., M.S., Brigham Young University, 1956, 1959.
- Ruth Edwina Udall** Instructor in Physical Education (1969)
B.S. West Virginia Wesleyan College, 1966; M.A., Temple University, 1969.

- Richard Ulrich** Professor of Mechanical Engineering (1968)
B.S., M.S., Ph.D., Purdue University, 1954, 1955, 1959.
- Ann Valentine** Assistant Professor of Physical Education
for Women (1966)
B.S., State Teachers College, 1955; M.S., Pennsylvania State University, 1961.
- John F. Vallentine** Associate Professor of Botany (1968)
B.S., Kansas State University, 1952; M.S., Utah State University, 1953; Ph.D., Texas
A&M University, 1959.
- Barbara Jane Vance** Assistant Professor of Child Development and
Family Relationships (1967)
B.A., University of Utah, 1956; M.A., Brigham Young University, 1959; Ph.D., Stan-
ford University, 1967.
- Curtis N. Van Alfen** Associate Professor of Education;
Assistant Dean, College of Education (1967)
B.S., M.S., Utah State University, 1957, 1959; Ed.D., University of Utah, 1967.
- John W. Van Cott** Instructor in Botany (1959)
B.S., Utah State University, 1941.
- Howard B. Vanfleet** Professor of Physics (1960)
B.S., Brigham Young University, 1955; Ph.D., University of Utah, 1961.
- T/Sgt. Lee M. Van Houten** Instructor in Aerospace Studies (1966)
- Josie S. Vincent** Instructor in Family Economics and
Home Management (1956)
B.S., Utah State University, 1939.
- Rex A. Wadham** Instructor in Education (1963)
B.S., Brigham Young University, 1963; M.A., University of Utah, 1967.
- Elizabeth Wahlquist** Associate Professor of English (1962)
B.A., Brigham Young University, 1955; M.A., Middlebury College, 1962.
- Leroy H. Walker** Assistant Professor of Mathematics (1968)
B.S., University of Utah, 1955; S.M., E.E., Massachusetts Institute of Technology,
1957, 1958.
- Rudger H. Walker** Professor of Agronomy (1960)
B.S., Brigham Young University, 1923; M.S., Ph.D., Iowa State University, 1925, 1927.
- Steven C. Walker** Instructor in English (1966)
B.S., M.A., Brigham Young University, 1965, 1966.
- Lulu Wallace** Assistant Professor of Physical Education (1956)
B.S., Utah State University, 1954; M.S., Washington State University, 1960.
- Max V. Wallentine** Professor of Animal Science (1962)
B.S., Utah State University, 1955; M.S., Ph.D., Cornell University, 1956, 1960.
- Marilyn June Wallin** Clinical Instructor in Nursing (1969)
B.S., Brigham Young University, 1966.
- Charles N. Walter** Assistant Professor of Mathematics (1969)
B.S., M.A., Ph.D., University of New Mexico, 1963, 1965, 1969.
- David M. Ward** Assistant Professor of Electrical Engineering (1964)
B.S., Stanford University, 1959.
- Beverly J. Warner** Instructor in Dramatic Arts (1963)
B.A., Chico State College, 1961.
- Charles Y. Warner** Associate Professor of Mechanical Engineering (1966)
B.S., M.S., Brigham Young University, 1957, 1963; Ph.D., University of Michigan,
1966.
- C. Terry Warner** Associate Professor of Philosophy (1967)
B.A., Brigham Young University, 1963; M.A., Ph.D., Yale University, 1965, 1967.
- S. Elvon Warner** Assistant Professor of Business Education (1961)
B.S., M.S., Brigham Young University, 1960; Ed.D., Arizona State University, 1968.
- Ted J. Warner** Associate Professor of History (1962)
B.S., M.S., Brigham Young University, 1955, 1958; Ph.D., University of New
Mexico, 1964.
- Max L. Waters** Associate Professor of Business Education (1958)
B.A., M.Ed., Brigham Young University, 1958, 1960; Ed.D., Colorado State Col-
lege, 1963.
- Jean Anne Waterstradt** Associate Professor of English (1945)
B.A., Brigham Young University, 1945; M.A., University of Southern California,
1955.
- Arthur R. Watkins** Professor of German (1952)
B.A., M.A., Brigham Young University, 1941, 1942; Ph.D., Stanford University, 1948.
- Ray Watters** Professor of Health Science (1957)
B.S., M.S., Utah State University, 1948, 1950; HSD, Indiana University, 1960.

- Paul J. Watts, Jr.** Assistant Professor of Electrical Engineering (1963)
BES, Brigham Young University, 1960.
- Stanley H. Watts** Associate Professor of Physical Education;
B.S., Brigham Young University, 1938. Head Basketball Coach (1947)
- Max D. Weaver** Associate Professor of Art (1961)
B.S., M.A., Utah State University, 1939, 1955.
- Ross M. Weaver** Assistant Professor of Speech (1959)
B.S., M.S., Utah State University, 1950, 1951; Ph.D., University of Oklahoma, 1970.
- Beth R. Webb** Instructor in Library Science (1966)
B.A., Brigham Young University, 1940; B.S.L.S., Denver University, 1944.
- Clark D. Webb** Instructor in Education (1966)
B.A., M.A., Brigham Young University, 1964, 1966.
- Fred N. Webb** Instructor in Music (1948)
A.B., M.A., Brigham Young University, 1933, 1954.
- Darrell Jack Weber** Associate Professor of Botany (1969)
B.S., M.S., University of Idaho, 1958, 1959; Ph.D., University of California at Davis, 1963.
- David G. Weight** Assistant Professor of Psychology (1969)
B.A., M.S., Brigham Young University, 1963, 1965; Ph.D., University of Washington, 1969.
- Stanley L. Welsh** Professor of Botany (1960)
B.S., M.S., Brigham Young University, 1951, 1957; Ph.D., Iowa State University, 1960.
- Dale H. West** Professor of English (1947)
B.A., Brigham Young University, 1940; M.A., University of Southern California, 1955; Ed.D., University of Colorado, 1962.
- Farrin W. West** Assistant Professor of Mechanical Engineering (1964)
BES, MSME, Brigham Young University, 1962, 1963.
- Lorin F. Wheelwright** Professor of Music; Dean of the College of Fine
Arts and Communications (1967)
B.S., University of Utah, 1930; M.A., University of Chicago, 1931; Ph.D., Columbia University, 1938.
- Lester B. Whetten** Associate Professor of Religious Instruction; Dean
B.A., M.A., Brigham Young University, 1932, 1934. of the General College (1956)
- William Whitaker** Instructor in Art (1969)
B.A., University of Utah, 1967.
- David Arnold White** Assistant Professor of Zoology (1966)
B.S., M.S., Brigham Young University, 1961, 1964; Ph.D., University of Wisconsin, 1967.
- Fred G. White** Associate Professor of Chemistry (1961)
B.S., M.S., Brigham Young University, 1952, 1956; Ph.D., University of California, 1961.
- J. Morgan White** Assistant Professor of Accounting (1967)
B.S., M.S., Brigham Young University, 1951, 1958; CPA, Utah, 1953.
- Charles R. Whited** Assistant Professor of Electronics
BSEE, MSEE, University of Utah, 1956, 1957. Engineering Technology (1969)
- Armand T. Whitehead** Assistant Professor of Zoology (1969)
B.S., Brigham Young University, 1965; Ph.D., University of California at Berkeley, 1969.
- Charles W. Whitman** Assistant Professor of Dramatic Arts (1965)
B.A., M.A., Brigham Young University, 1957, 1958.
- Leslie Whitton** Associate Professor of Botany (1962)
B.S., Utah State University, 1949; M.S., University of California at Davis, 1953; Ph.D. Cornell University, 1964.
- Harry E. Wickes** Associate Professor of Mathematics (1957)
B.S., M.Ed., Brigham Young University, 1950, 1954; M.Ed., Harvard University, 1962; Ed.D., Colorado State College, 1967.
- Marvin E. Wiggins** Instructor in Library Science (1967)
B.S., Brigham Young University, 1965; MLS, Rutgers, 1967.
- Marjorie Wight** Assistant Professor of English (1963)
B.A., Brigham Young University, 1943; M.A., University of California at Los Angeles, 1958; Ph.D., University of Southern California, 1967.
- Theodore A. Wight** Assistant Professor of Mathematics (1963)
B.S., M.S., Ed.D., University of Utah, 1955, 1964, 1969.
- Ray T. Wilcox** Associate Professor of Secondary Education (1957)
B.S., M.Ed., Brigham Young University, 1951, 1954; Ed.D., University of California (Berkeley), 1957.

- Doran F. Wilkes** Associate Professor of Civil Engineering (1958)
B.S., M.S., Utah State University, 1951, 1955; Ed.D., University of Missouri, 1966.
- Ernest J. Wilkins** Professor of Spanish; Director of the Language
Training Mission (1953)
B.A., Brigham Young University, 1947; M.A., Ph.D., Stanford University, 1949, 1954.
- Ernest L. Wilkinson** University President; Professor of
Political Science (1951)
B.A., Brigham Young University, 1921; J.D., George Washington University, 1926;
SJD, Harvard University, 1927; hon. LL.D., Brigham Young University, 1957.
- Milton G. Wille** Associate Professor of Mechanical Engineering (1964)
B.A., BES, Brigham Young University, 1957, 1957; M.S., California Institute of
Technology, 1958; Ph.D., University of Michigan, 1964; Registered Professional
Engineer, Utah, 1965.
- Carwin C. Williams** Assistant Professor of Political Science (1964)
B.S., Brigham Young University, 1956; M.A., Rutgers University, 1958.
- Gary Shelton Williams** Assistant Professor of Asian Languages (1966)
B.A., Brigham Young University, 1962.
- Glenn R. Williams** Associate Professor of Music (1965)
B.A., Brigham Young University, 1953; M.M., DMA, Eastman School of Music, 1954,
1961.
- Ray S. Williams** Assistant Professor of English (1966)
B.A., Coker College, 1960; M.A., Ph.D., Florida State University, 1962, 1965.
- Tess M. Williams** Assistant Professor of Communications (1960)
B.S., Oregon State University, 1951; M.S., Iowa State University, 1956.
- Arnold Wilson** Assistant Professor of Civil Engineering (1957)
B.S., M.S., Brigham Young University, 1957, 1962; Registered Professional Engineer,
Utah, 1963.
- Byron J. Wilson** Associate Professor of Chemistry (1965)
B.S., Idaho State College, 1955; M.A., Southern Illinois University, 1958; Ph.D.,
University of Washington, 1961.
- Marguerite I. Wilson** Associate Professor of Special Education (1956)
B.S., University of Utah, 1948; M.A., San Francisco State College, 1955; Ed.D., George
Peabody College for Teachers, 1965.
- Warren B. Wilson** Associate Professor of Art and Education (1954)
B.S., Utah State University, 1943; MFA, State University of Iowa, 1949.
- William A. Wilson** Assistant Professor of English (1960)
B.A., M.A., Brigham Young University, 1958, 1962.
- S/Sgt. Lynden Wilstead** Instructor in Aerospace Studies (1967)
- Larry T. Wimmer** Associate Professor of Economics (1963)
B.S., Brigham Young University, 1960; M.A., Ph.D., University of Chicago, 1962, 1968.
- John H. Wing** Assistant Professor of Chemistry (1931)
B.S., M.S., Brigham Young University, 1926, 1934.
- H. Geneva Winterrose** Associate Professor of Education (1967)
B.S., M.S., Brigham Young University, 1948, 1951; Ed.D., Utah State University,
1968.
- Dee R. Winterton** Instructor in Physical Education (1968)
B.S., MFA, University of Utah, 1960, 1968.
- Edward J. Winward** Assistant Professor of Educational Psychology;
Chairman of Testing Service (1959)
B.S., M.S., Utah State University, 1959, 1960; Ph.D., University of Missouri, 1966.
- Richard B. Wirthlin** Professor of Economics (1961)
B.S., M.A., University of Utah, 1956, 1957; Ph.D., University of California, 1963.
- Alan R. Witbeck** Assistant Professor of Physical Education (1955)
B.S., M.S., Brigham Young University, 1952, 1954.
- Robert H. Wittorf** Instructor in Library Science (1964)
B.A., Brigham Young University, 1959; MLS, The Pratt Institute, 1960.
- Harold Frederick Wolfram** Associate Professor of Education (1966)
B.S., M.S., Ph.D., University of Utah, 1959, 1960, 1964.
- Heber G. Wolsey** Professor of Communications; Assistant to the
President of University Relations (1963)
B.S., Brigham Young University, 1942; M.A., Northwestern University, 1949; Ph.D.,
Michigan State University, 1967.
- Glena D. Wood** Associate Professor of English (1952)
B.A., Brigham Young University, 1936; M.A., Ph.D., University of Kentucky, 1949,
1958.

- Joseph S. Wood** Assistant Professor of History (1967)
B.S., Ph.D., University of Utah, 1939, 1967.
- Lowell Dale Wood** Assistant Professor of Economics (1969)
B.S., Brigham Young University, 1969; M.S., Montana State University, 1966; Ph.D., University of California at Berkeley, 1969.
- Stephen L. Wood** Professor of Zoology (1956)
B.S., M.S., Utah State University, 1946, 1948; Ph.D., University of Kansas, 1953.
- Lael J. Woodbury** Professor of Dramatic Arts (1965)
B.S., Utah State University, 1952; M.A., Brigham Young University, 1953; Ph.D., University of Illinois, 1954.
- Richard C. Woodbury** Associate Professor of Electrical Engineering (1959)
B.S., University of Utah, 1956; M.S., Ph.D., Stanford University, 1958, 1965.
- Leon W. Woodfield** Associate Professor of Accounting (1960)
B.S., MBA, University of Utah, 1956, 1957; CPA, California, 1959, Utah, 1960; DBA, Michigan State University, 1965.
- Hugh J. Woodford** Assistant Professor of Physics (1968)
B.S., M.S., Brigham Young University, 1949, 1955; Ph.D., University of Utah, 1966.
- Arlan Woodward** Instructor in Political Science (1969)
B.A., Brigham Young University, 1965; MPA, University of Southern California, 1968.
- Ralph Woodward** Professor of Music (1955)
B.S., University of Idaho, 1940; M.M., Cincinnati Conservatory of Music, 1948; DMA, University of Illinois, 1964.
- Charles J. Woodworth** Assistant Professor of Sociology; Counselor in
Counseling Center (1966)
B.A., Brigham Young University, 1954; MSW, University of Utah, 1959; Ph.D., Brigham Young University, 1965.
- Richard R. Wootton** Assistant Professor of Education (1963)
B.S., M.S., Ed.D., Brigham Young University, 1956, 1961, 1969.
- Donald N. Wright** Associate Professor of Microbiology (1969)
B.S., University of Utah, 1958; Ph.D., Iowa State University, 1964.
- H. Curtis Wright** Assistant Professor of Library and
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 McCoy A. McMurray, LL.B., Special Instructor in Religious Instruction
 Calvin McOmber, B.S., M.S., Special Instructor in Religious Instruction
 David McOmber, Special Instructor in Industrial Technology
 Heber Gordon Mehr, B.S., MSW, Special Instructor in Sociology
 Sandra J. Merrill, B.S., M.S., Special Instructor in Child Development and Family Relationships
 David H. Miller, B.A., M.A., Special Instructor in History
 Marilyn Miller, B.A., Special Lecturer for Continuing Education
 Olga K. Miller, Special Lecturer in Languages
 Randall D. Miller, B.A., M.A., Special Instructor in English
 Rulon G. Miller, B.S., M.S., Ed.D., Special Instructor in Education
 David S. Milne, A.B., M.A., Ph.D., Special Instructor in Sociology
 Jay W. Mitton, B.S., MBA, Special Lecturer in Business Management
 Leland H. Monson, B.A., M.A., Ph.D., Special Instructor in English, Speech and Dramatic Arts
 Kenneth Moosman, B.A., Special Instructor in Mathematics
 Stanley R. Morgan, B.S., M.S., Special Instructor in Education
 Elaine M. Mortensen, B.A., Special Instructor in French
 Ronald W. Mortensen, B.S., MBA, Special Instructor in Economics
 Ermel J. Morton, B.A., M.A., Ph.D., Special Instructor in Languages, English
 Earl W. Moulton, B.S., M.S., Special Instructor in Mathematics
 Lewis M. Mulkay, B.S., M.S., Ph.D., Special Instructor in Zoology
 Bessie C. Mumford, B.S., M.S., Special Instructor in Clothing and Textiles
 Albert Pierre Nadar, B.A., Special Instructor in Languages
 Mary Lou Nahas, B.A., M.A., Special Instructor in English
 Erica Nederhand, Special Lecturer in Genealogy
 Clyde C. Neilson, B.S., Special Instructor in Computer Science
 Horace David Nelson, B.S., M.S. of Ed., Special Instructor in Education
 Linda Nelson, B.S., M.Ed., Special Instructor in Mathematics
 Alfred C. Nielsen, M.S., Special Instructor in Religious Instruction
 Harold K. Nielson, B.S., M.A., Special Instructor in Mathematics
 John D. Nielson, B.S., M.S., Special Instructor in Geography
 Richard S. Nielsen, Special Instructor in Physical Education
 Robert M. Nielson, A.S., B.S., M.S., Special Instructor in Microbiology, Zoology
 Lewis V. Nord, B.S., B.A., Special Instructor in Communications
 Eugene Stephen Nye, A.S., B.A., M.A., Special Instructor in Music
 Merrill C. Oaks, M.D., Special Instructor in Zoology
 Jerold D. Oldham, B.S., M.S., Special Instructor in Botany
 Robert Oliphant, B.S., Special Instructor in Dance
 Lynn E. Olsen, B.S., M.Ed., Special Instructor in Education
 Douglas H. Orgill, A.B., M.A., Ph.D., Special Instructor in English
 Geoffrey F. Orr, B.S., M.A., Ph.D., Special Instructor in Botany
 John W. Orton, Special Lecturer in Genealogy
 George Orulian, Special Instructor in Physical Education
 Lowell D. Oswald, B.S., M.Ed., Special Lecturer in English
 Leauon G. Otten, B.S., M.S., Special Lecturer in Religious Instruction
 Jarvis Page Palmer, B.S., M.S., Ed.D., Special Instructor in Music
 Elaine Papenfuss, B.A., M.A., Special Instructor in English
 Kenneth M. Papenfuss, B.A., M.Ed., Special Instructor in Business Education
 Gail R. Park, B.S., M.S., Special Instructor in Mathematics
 Edward W. Parker, A.B., M.A., Ed.D., Special Instructor in Education
 Jimmy Parker, B.S., Special Instructor in Genealogy, Religious Instruction
 Max H. Parkin, B.S., M.A., Special Instructor in Religious Instruction
 Berkley H. Parkinson, B.S., M.S., Special Instructor in Physical Education
 Blaine P. Parkinson, B.S., M.S., Ph.D., Special Instructor in Education
 Mabelle Parkinson, B.S., M.S., Special Instructor in Guided Studies, Education
 Ted J. Parkinson, B.S., Special Instructor in Zoology
 H. Oliver Parson, B.S., M.A., Special Instructor in Art, Education
 Mary Helen Parsons, B.S., Special Instructor in Food Science and Nutrition
 Alden R. Partridge, B.S., B.A., M.A., Special Instructor in Statistics
 Thomas Patten, B.A., Special Instructor in German
 Ethel S. Paul, B.S., M.S., Special Lecturer in Art

W. Rulon Paxman, A.B., MBA, Special Instructor in Law Enforcement
 Manouchehr Paydar, M.A., Ph.D., Special Lecturer in Persian
 Albert L. Payne, B.S., M.S., Special Lecturer in Religious Instruction
 Charles E. Pearce, B.A., M.A., Ed.D., Special Instructor in Education
 Lorentz C. Pearson, B.S., M.S., Ph.D., Special Instructor in Botany
 DeVaughn C. Petersen, B.S., M.S., Special Lecturer in Religious Instruction
 Levi S. Peterson, B.A., M.A., Ph.D., Special Instructor in English
 Maurice Pia, B.S., Special Instructor in Civil Engineering
 Albert A. Pieper, B.A., M.A., Special Instructor in Languages
 Patricia Anne Pieper, A.S., B.S., M.S., Special Instructor in Business Education
 Robert C. Pierce, B.S., Special Instructor in Languages
 Lloyd Robert Pierson, B.S., MT., Sci., Special Instructor in Health Sciences
 Louis R. Poore, B.S., M.S., Special Instructor in Mathematics
 LaDawn T. Porter, B.S., Special Lecturer for Continuing Education
 Paulette O. Poudras, B.A., Special Instructor in Languages
 Ann Fiero Pritt, A.B., M.S., Special Instructor in Child Development and Family Relationships
 Robert David Reed, B.S., Special Instructor in Zoology
 Jay H. Rhees, B.S., M.S., Special Lecturer in Guided Studies
 Margaret Richards, B.A., M.A., Special Instructor in Music
 Kenneth S. Richardson, B.S., Special Instructor in English
 Kimber O. Ricks, A.S., B.S., MBA, Special Instructor in Accounting, Business Management
 Norman E. Ricks, B.S., M.S., Special Instructor in History, Political Science
 Rudger V. Ricks, B.S., M.S., Special Instructor in Geology
 Jay L. Risenmay, B.S., M.S., Ed.D., Special Instructor in Education
 Richard D. Roberts, B.S., Special Instructor in Art
 Heber W. Robertson, B.S., MSW, Special Instructor in Sociology
 Richard W. Robinson, B.A., M.A., D. Mus., Special Instructor in Music
 Allen V. Roe, B.S., M.Ed., Special Instructor in Psychology
 Kennett H. Rogers, B.S., M.S., Special Instructor in Physics
 Thomas F. Rogers, B.A., M.Ed., Special Lecturer in Languages
 Robert H. Rollins, B.S., Special Instructor in Industrial Education
 C. Keith Rooker, B.A., J.D., Special Instructor in Political Science, Speech and Dramatic Arts
 Nancy Rooker, B.A., M.A., Special Instructor in Speech and Dramatic Arts
 Naoma Tew Rowan, B.A., M.A., Ed.D., Special Instructor in Education
 Carl M. Rowley, B.S., MSW, Special Instructor in Sociology
 C. Morris Rowley, B.S., M.S., Special Instructor in Education
 T. Leonard Rowley, B.A., M.Ed., Special Lecturer in Guided Studies
 Paul F. Royall, Special Lecturer in Religious Instruction
 Aaron A. Roylance, B.S., M.A., Ph.D., Special Instructor in Speech and Dramatic Arts
 Donald D. Rydalch, B.S., Special Instructor in Communications
 Richard Sadler, B.S., M.S., Ph.D., Special Instructor in History
 Ben E. Sampson, B.S., Special Lecturer for Continuing Education
 Raymond E. Sanders, B.A., M.A., Special Instructor in Communications
 Floyd Newel Sargent, B.S., Special Lecturer in Health Sciences
 Tomiko H. Sato, Special Lecturer in Languages
 J. Richard Schmid, B.A., M.A., Special Instructor in Statistics, Mathematics
 Ernest Schneider, Special Instructor in Physical Education
 William A. Scholes, B.S., M.S., Special Lecturer in Religious Instruction
 Robert W. Schwartz, B.A., M.A., Special Instructor in Languages
 Luther C. Schwich, B.S., M.A., Ph.D., Special Instructor in Health Sciences
 Spencer L. Seager, B.S., Ph.D., Special Lecturer in Chemistry
 Howard C. Searle, B.S., M.S., Special Instructor in Religious Instruction, History
 Paul R. Searle, B.S., M.A., Ed.D., Special Instructor in Religious Instruction
 Keith L. Sellers, B.S., M.S., Ed.D., Special Instructor in Religious Instruction
 Lee M. Shepherd, B.S., Special Instructor in Industrial Education
 Bruce L. Shirley, A.A., B.S., Special Lecturer for Continuing Education
 Mack G. Shirley, B.S., M.S., Special Instructor in Education
 James H. Short, B.S., M.Ed., Special Instructor in Education
 David S. Sill, B.S., M.A., Special Instructor in History
 Gerald W. Silver, B.S., Special Lecturer in Photography

Dewain Silvester, B.A., Special Instructor in Communications
 Robert Simmons, B.S., M.Sc.D., Special Instructor in Education
 Richard N. Simonsen, B.S., MBA, Special Lecturer in Computer Science
 Wesley Sine, LL.B., Special Instructor in Physical Education
 Harald E. Singer, MBA, CPA, Special Instructor in Business Management
 Katherine Wing-leng Siu, Special Lecturer in Languages
 Norman L. Skanchy, B.S., Special Instructor in Art, Education
 Barbara W. Smith, B.S., Special Instructor in Music
 Frank Smith, Special Instructor in Genealogy
 Jesse R. Smith, Jr., B.A., M.A., Special Instructor in History
 Keith L. Smith, B.S., M.A., Special Instructor in History
 Larry D. Smith, B.A., M.Ed., Ph.D., Special Instructor in Psychology
 Mary Smith, B.S., M.S., Special Instructor in Education
 W. LaMar Smith, B.A., M.S., Special Instructor in Communications
 Edward A. Solie, B.A., MSW, Special Instructor in Sociology
 Dean R. Sorensen, B.S., M.S., Special Instructor in Education
 Neil R. Sorensen, B.A., M.A., Special Instructor in Physics, Mathematics
 John Leon Sorenson, B.A., M.A., Special Instructor in Languages
 Florence Sperry, B.S., M.S., Ed.D., Special Instructor in Education
 Herman Spilker, B.S., J.D., Special Instructor in Accounting
 Jerry R. Springer, B.S., M.S., Special Instructor in History
 Philip J. Spjut, DDS, Special Instructor in Zoology
 Stephen Stanford, B.S., M.S., Ph.D., Special Instructor in Child Development and Family Relationships, Sociology
 Brian E. Stanton, B.A., M.A., Special Instructor in English
 Sharon H. Steensma, B.S., M.S., Special Instructor in English
 Frank C. Steiner, B.S., Special Instructor in German
 Raymond B. Stensrud, B.S., M.S., Ph.D., Special Instructor in Education
 Lewis Stephens, Special Instructor in Business Management
 Bud W. Stephenson, B.S., M.S., Special Instructor in Psychology
 Jon H. Sticklen, B.S., M.S., Special Instructor in Physics
 Thomas J. Stirland, M.A., Special Lecturer in Religious Instruction
 Douglas W. Stott, B.A., M.Mu., Special Instructor in Religious Instruction
 Irene C. Stratopoulos, B.A., M.A., Ph.D., Special Instructor in English
 Shawna E. Strobel, B.S., M.A., Special Instructor in Clothing and Textiles, Family Economics and Home Management
 Frank Keith Stuart, B.S., Ph.D., Special Instructor in Accounting
 Charles Bruce Stubbs, B.S., M.S., Special Instructor in Art
 Arthur J. Swensen, B.S., M.S., Special Instructor in Geology
 William C. Tanner, B.S., M.A., Ph.D., Special Instructor in Psychology, Child Development and Family Relationships
 Hussein M. Tartir, B.S., Special Lecturer in Arabic
 DaWayne R. Taylor, ACS, Special Lecturer in Business Education
 Jeanne Taylor, B.A., M.A., Special Instructor in Languages, History
 Kathryn Ann Taylor, B.S., Special Instructor in Physical Education
 Katherine C. Taylor, B.A., Special Lecturer for Continuing Education
 Keith L. Taylor, B.S., M.A., Special Instructor in Psychology
 Lucille H. Teasdale, A.B., Special Lecturer in Child Development and Family Relationships
 J. Kenneth Thatcher, B.A., M.A., Special Instructor in Education
 E. LaVoy Thomas, B.A., M.A., Special Instructor in Sociology
 Sharon Naomi Thomas, B.A., M.S., Special Instructor in Psychology
 Clem J. Thompson, B.S., M.A., Special Instructor in Chemistry, Education
 John A. Thompson, Jr., BPS, Special Instructor in Art
 John H. Thompson, B.S., M.Ed., Special Instructor in Music, Religious Instruction, Mathematics
 Larry Gene Thompson, B.A., M.A., Special Instructor in English
 Mary J. Thompson, B.S., Special Instructor in Clothing and Textiles
 Sherry O. Thompson, B.A., Special Instructor in Art
 Dean L. Thomson, B.S., Special Instructor in Speech and Dramatic Arts
 Lynn P. Thomson, A.S., B.S., M.Sci. Ed., Special Instructor in Physics
 William Tilleman, B.S., MBA, Special Instructor in Business Management
 Fred H. Tingey, B.S., M.S., Ph.D., Special Instructor in Mathematics, Education, Statistics

Lowell R. Tingey, B.S., Special Lecturer in Religious Instruction
 Harold J. Tippetts, Special Lecturer in Political Science
 Allen R. Titensor, Special Instructor in Physical Education
 Jay M. Todd, B.S., Special Instructor in Communications
 David Tovey, Special Instructor in Mathematics
 David C. Triptow, B.S., M.S., Special Instructor in Physical Education
 Raili Inkeri Turunen, Special Lecturer in Languages
 Reed L. Tyler, B.A., M.A., Special Instructor in Art
 Jaroslav Valachovic, BSL, MSL, Special Lecturer in Languages
 Richard W. Vaughan, B.A., M.A., Special Instructor in Speech and Dramatic Arts
 Harold A. Wagner, B.A., M.A., Special Instructor in Accounting
 Layle Walker, B.A., B.S., Special Instructor in Mathematics
 Wilson C. Walker, B.S., M.S., Special Instructor in Education, Psychology
 Carol Walt, B.S., M.Rec.Ed., Special Instructor in Physical Education
 Wilbur T. Walton, B.A., M.S., Ph.D., Special Instructor in Sociology
 Glen J. Ward, B.S., M.S., Special Lecturer in Guided Studies
 Darrell Duane Wardle, B.S., M.S., Special Instructor in Accounting
 Kazimerz Wasowicz, M.S., Special Lecturer in Polish
 Lyle Watson, B.S., M.A., Special Instructor in Speech and Dramatic Arts
 Lorin Dee Weber, B.S., M.S., Special Instructor in Mathematics
 Alexandra Wegner, B.A., Special Lecturer in Languages
 Arthur H. Welch, B.S., Special Lecturer in Guided Studies
 Max B. Welker, B.S., MAT, Special Instructor in Botany
 Phil E. Wennhold, B.A., M.A., Special Instructor in Psychology
 Theresa West, Special Lecturer for Continuing Education
 Fermen J. Westergard, B.A., Special Lecturer in Art
 Weston E. Whatecott, B.A., MSW, Special Instructor in Sociology
 Melvin A. White, B.S., MSW, Special Instructor in Sociology
 David K. Whitmer, A.A., B.A., M.A., Ed.D., Special Lecturer in Religious Instruction
 Bob Whitney, B.A., Special Instructor in Art
 Robert O. Wilcock, B.S., Special Instructor in Religious Instruction
 Arletta, Williams, B.S., M.E., Special Instructor in Education
 Benne D. Williams, B.S., M.S., Ed.D., Special Instructor in Psychology
 Edmund J. Williams, B.S., M.S., Special Instructor in Geology
 Genevieve S. Williams, Special Lecturer for Continuing Education
 Kay McMullin Williams, B.S., M.S., Special Instructor in History, Economics
 Nedra R. Williams, B.S., Special Instructor in Physical Education
 Phoebe N. Williams, B.S., Special Lecturer for Continuing Education
 Charles Allen Wilson, B.A., Special Instructor in Spanish
 D. Parry Wilson, B.S., M.S., Ed.D., Special Instructor in Education
 Lerue Winget, B.S., M.S., Ed.D., Special Instructor in Education
 David Ralph Winn, B.A., MBA, Special Instructor in Computer Science
 Richard C. Wisan, B.S., M.S., Special Instructor in English
 Arthur C. Wiscombe, B.S., M.A., M.Ed., Special Lecturer for Continuing Education
 Hartt P. Wixom, B.S., Special Lecturer in English, Photography
 Earl S. Wolfley, B.Sc., J.D., Special Instructor in Education
 Darwin Wolford, B.S., M.Mu., Ph.D., Special Instructor in Music
 Cecilia J. Wong, B.S., M.S., Special Lecturer in Languages
 Robert J. Woodford, B.S., M.A., Special Lecturer in Education
 Ruby Woodward, B.S., Special Instructor in Clothing and Textiles
 James R. Wray, B.S., M.S., Special Instructor in Mathematics
 Spencer Wyatt, B.S., M.S., Ed.D., Special Instructor in Education
 Willis Dean Wynn, B.S., M.S., Ed.D., Special Instructor in Physical Education
 C. Rex Yeaman, B.S., M.A., Special Instructor in Mathematics
 Thad O. Yost, B.S., M.S., Ed.D., Special Instructor in Education
 Allen Young, B.S., M.S., Special Instructor in Education
 Moana Young, B.S., M.S., Special Instructor in English
 Jay C. Young, B.S., M.S., Special Instructor in Physics
 Orson W. Young, B.A., M.A., Ph.D., Special Instructor in Zoology
 Ann L. Zenger, Special Instructor in Physical Education
 John H. Zenger, B.S., MBA, Special Instructor in Psychology
 Melva S. Zillner, B.A., Special Instructor in Languages
 John Zippo, Special Lecturer in Electronics

ENROLLMENT SUMMARY 1967-68
PROVO, UTAH
AS OF AUGUST 19, 1968

College	5th-Year					Men	Women	Total
	Freshman	Sophomore	Junior	Senior	Professional			
Biological and Agricultural Sciences	633	529	428	358	....	1,644	304	1,948
Business	611	532	565	574	....	1,714	568	2,282
Education	619	677	677	624	....	378	2,219	2,597
Family Living	380	384	485	378	....	24	1,603	1,627
Fine Arts and Communications	574	446	467	465	....	855	1,097	1,952
General	1,812	957	361	86	....	1,963	1,253	3,216
Humanities	378	319	456	468	....	571	1,050	1,621
Industrial and Technical Education	276	298	244	194	....	583	429	1,012
Nursing	185	126	114	72	....	8	489	497
Physical and Engineering Sciences	757	553	400	385	97	2,044	148	2,192
Physical Education	179	149	225	226	....	396	383	779
Social Sciences	687	644	789	744	....	1,893	971	2,864
Graduate School .....	....	....	....	....	....	2,459	1,125	3,584
Total Daytime College Students on Campus	7,091	5,614	5,211	4,574	97	14,532	11,639	26,171**
Evening College Students on Campus .....	....	....	....	....	....	736	1,211	1,947
Net Cumulative Total College Level	....	....	....	....	....	15,268	12,850	28,118
BYU Laboratory Schools	....	....	....	....	....	....	....	....
Elementary School .....	....	....	....	....	....	88	79	167
Junior High School .....	....	....	....	....	....	110	99	209
Senior High School .....	....	....	....	....	....	105	90	195
Total, BYU Laboratory Schools	....	....	....	....	....	303	268	571
TOTAL STUDENTS ON BYU CAMPUS	....	....	....	....	....	15,571	13,118	28,689*

*Complete for the school year 1967-68, including Summer School 1968.

**Total enrollment for Fall and Spring Semesters only was 22,780. Total Summer School enrollment was 8,125, of whom 3,391 attended Summer School only.

NOTE: There are no duplications in this table.

**BRIGHAM YOUNG UNIVERSITY 1967-68 CUMULATIVE FALL AND SPRING
SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS,
PROVO CAMPUS, ACCORDING TO STATES AND FOREIGN AREAS
AS OF AUGUST 18, 1968**

Mountain States		Mid-Atlantic States		New Guinea		4
Utah	9,509	New York	265	South Vietnam		6
Idaho	2,614	New Jersey	131	Malaya		2
Arizona	884	Pennsylvania	129			
Nevada	540	Delaware	13			189
Colorado	431					
Wyoming	423		538	Europe		
New Mexico	294	D.C. and Adjoining States		England		45
Montana	231	Virginia	213	East Germany		9
	14,926	Maryland	103	France		9
		District of Columbia	18	Switzerland		7
Pacific States				Finland		15
California	5,203		334	Scotland		3
Washington	804	New England States		Sweden		4
Oregon	630	Massachusetts	77	Austria		4
Hawaii	142	Connecticut	44	Yugoslavia		3
Alaska	52	New Hampshire	27	West Germany		32
	6,831	Maine	17	Belgium		2
		Vermont	11	Northern Ireland		1
Central States		Rhode Island	10	Norway		11
Texas	250		186	Netherlands		3
Missouri	93	U.S. Territories		Denmark		3
Oklahoma	73	Canal Zone	3	Italy		2
Minnesota	78	Puerto Rico	5	Greece		2
Nebraska	53		8	Wales		1
Iowa	54	TOTAL		Monaco		1
Kansas	65	UNITED STATES 24,745				157
South Dakota	34			Middle East		
North Dakota	14			Iran		38
	714			India		73
Great Lakes States		Dominion of Canada		Saudi Arabia		2
Illinois	221	Alberta	448	Pakistan		4
Ohio	146	Ontario	66	Israel		1
Michigan	108	British Columbia	50	Jordan		2
Indiana	73	Saskatchewan	13	Iraq		1
Wisconsin	89	Quebec	10	Syria		1
	637	Manitoba	12			122
		Yukon and		Central America and Mexico		
Southern States		N.W. Territory	1	Mexico		58
Florida	200	Maritime Provinces	8	Guatemala		6
North Carolina	72	Newfoundland and		Honduras		3
Georgia	61	Laborador	1	El Salvador		3
Louisiana	36		609	British Honduras		1
Alabama	33	Far East		Cuba		1
South Carolina	56	Nationalist China				72
Tennessee	30	(Formosa)	95	South America		
Arkansas	22	Japan	31	Brazil		20
Kentucky	27	Hong Kong	9	Peru		18
West Virginia	18	Korea	20	Chile		5
Mississippi	16	Thailand	16	Uruguay		7
	571	Philippines	6	Argentina		7
		Netherlands		French Guiana and		
				Inini		1

Venezuela	3	Tongan Islands	3	Unidentified	165
Bolivia	2	Mariana Islands	1		
Colombia	1				
	64		40	TOTAL FOREIGN	1,426
		Africa			
Australia and Pacific Islands		Nigeria	5	TOTAL DAYTIME STUDENTS	26,171
New Zealand	20	Southwest Africa	1		
Australia	11	Libya	1		
Samoa Islands	5	Liberia	1		
			8		

RECAPITULATION

United States	
Mountain States	14,926
Pacific States	6,831
Central States	714
Great Lakes States	637
Southern States	571
Mid-Atlantic States	538
D.C. and Adjoining States	334
New England States	186
U.S. Territories	8
Dominion of Canada	609
Far East	189
Europe	157
Middle East	122
Central America and Mexico	72
South America	64
Australia and Pacific Islands	40
Africa	8
Unidentified	165
GRAND TOTAL	26,171

**BRIGHAM YOUNG UNIVERSITY 1967-68 CUMULATIVE FALL AND SPRING
SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS
FROM STAKES AND MISSIONS AS OF AUGUST 19, 1968**

Alameda	35	Ben Lomond South ..	17	BYU First	94
Alaska	41	Benson	15	BYU Second	80
Alberta	111	Berlin	1	BYU Third	91
Albuquerque	61	Big Horn	129	BYU Fourth	103
Albuquerque East	27	Billings	55	BYU Fifth	59
Alpine	125	Blackfoot	61	BYU Sixth	87
American Falls	30	Blaine	25	BYU Seventh	14
American Fork	132	Boise	79	BYU Eighth	35
American River	97	Boise North	66	Cache	4
Ammon	60	Bonneville	54	Calgary	31
Anaheim	50	Boston	55	Calgary North	29
Apia	6	Bountiful	83	Cannon	19
Arlington	33	Bountiful East	29	Canoga Park	62
Ashley	52	Bountiful North	44	Canyon Rim	77
Atlanta	26	Bountiful South	53	Carbon	51
Auckland	3	Box Elder	32	Cascade	35
Bakersfield	70	Brigham City	32	Casper	34
Bannock	25	Buenos Aires	1	Cassia	46
Bear Lake	24	Burbank	93	Cedar	18
Bear River	27	Burley	100	Cedar Rapids	15
Beaumont	18	Butler	27	Cedar West	26
Beaver	32	Butler West	9	Cheyenne	66
Ben Lomond	37	Butte	49	Chicago	73

Chicago South	59	Great Falls	55	Mexico City North	1
Cincinnati	38	Greensboro	16	Miami	35
Clearfield	39	Gridley	79	Midvale	97
Cleveland	46	Gunnison	29	Millard	55
Coeur d'Alene	22	Hamburg	2	Millcreek	21
College of Southern Utah	6	Hamilton	13	Milwaukee	60
Columbia River	60	Hartford	19	Minidoka	98
Columbus	26	Hattiesburg	5	Minnesota	54
Concord	86	Hawkes Bay	2	Missoula	32
Corpus Christi	7	Hayward	57	Moapa	44
Corvallis	23	Highland	23	Modesto	53
Cottonwood	50	Hillside	42	Mojave	54
Covina	90	Holladay	103	Monte	5
Craig	19	Honolulu	51	Monterey Bay	47
Cumorah	45	Houston	35	Montpelier	74
Dallas	72	Humboldt	34	Monument Park	54
Davis	63	Hunter	29	Monument Park West	37
Denver	62	Huntington Park	68	Morgan	18
Denver South	54	Hyrum	13	Moroni	27
Denver West	70	Idaho	44	Mt. Graham	53
Deseret	79	Idaho Falls	87	Mt. Jordan	94
Detroit	57	Idaho State	9	Mt. Logan	8
Duchesne	58	Illinois	37	Mt. Ogden	18
East Cache	20	Indianapolis	42	Mt. Olympus	40
East Idaho Falls	80	Inglewood	127	Mt. Rubidoux	75
East Jordan	38	Jackson	5	Murray	30
East Long Beach	99	Juab	67	Murray South	76
East Los Angeles	56	Juarez	38	Nampa	111
East Mesa	54	Kanab	32	Napa	57
East Mill Creek	40	Kansas City	71	Nebo	156
East Ogden	39	Kaysville	55	Nevada	52
East Phoenix	50	Kearns	15	New Jersey	73
East Pocatello	35	Kearns North	16	New Jersey Central	29
East Provo	335	Klamath	23	New Orleans	22
East Rigby	46	Kolob	202	New York	92
East Sharon	694	Lake Mead	56	Norfolk	32
Edmonton	49	Lake View	9	North Box Elder	24
El Paso	48	Lansing	49	North Carbon	33
Emery	42	Las Vegas	84	North Carolina	20
Emigration	27	Las Vegas Central	6	North Columbia River	45
Ensign	62	Las Vegas East	106	North Davis	22
Fair Oaks	6	Las Vegas North	76	North Idaho Falls	77
Farr West	18	Layton	37	North Jordan	36
Flagstaff	41	Layton East	1	North Pocatello	17
Florida	62	Lehi	146	North Rexburg	76
Fort Wayne	18	Leicester	1	North Sacramento	56
Franklin	53	Lethbridge	68	North Sanpete	31
Fremont	20	Lewiston	58	North Seattle	76
Fresno	63	Liberty	15	North Sevier	27
Fresno East	48	Logan	9	North Tooele	62
Fullerton	80	London	8	North Weber	10
Garden Grove	40	Long Beach	66	Norwalk	46
Garfield	15	Lorin Farr	23	Nyssa	97
Glendale	150	Los Angeles	83	Oahu	53
Gooding	46	Lost River	20	Oakland-Berkeley	143
Grand Coulee	52	Lyman	54	Ogden	20
Grand Coulee North	31	Macon	19	Oklahoma	38
Grand Junction	66	Malad	49	Olympia	2
Granger	46	Maricopa	63	Olympus	45
Granger North	21	Medford	51	Oneida	56
Granite	20	Melbourne	2	Oquirrh	24
Granite Park	20	Memphis	10	Oquirrh East	14
Grant	44	Mesa	68	Orem	242
Grantsville	57	Mesa South	35		
		Mexico	3		

Orem West	246	San Jose South	5	Twin Falls	106
Orlando	44	San Jose West	83	Uintah	57
Palm Springs	3	San Juan	94	Union	77
Palo Alto	172	San Leandro	64	University	26
Palomar	66	San Luis	30	University Second	20
Palmyra	120	San Luis Obispo	24	University West	38
Panguitch	32	San Mateo	135	Utah	199
Park	27	Sandy	73	Utah State Univ.	20
Parley	40	Sandy East	39	Utah State Univ.	
Parowan	11	Santa Ana	77	Second	2
Pasadena	171	Santa Barbara	107	Uvada	23
Pasco	7	Santa Maria	31	Valley View	73
Pearl Harbor	28	Santa Monica	94	Vancouver	23
Philadelphia	48	Santa Rosa	93	Virginia	24
Phoenix	24	Santaquin-Tintic	39	Walnut Creek	99
Phoenix North	47	Scottsdale	70	Wasatch	109
Phoenix West	25	Seattle	72	Washington	113
Pikes Peak	39	Seattle East	65	Washington Terrace..	18
Pioneer	19	Sevier	93	Wayne	29
Pocatello	35	Sharon	273	Weber	17
Pomona	71	Shelley	105	Weber Heights	35
Portland	73	Shreveport	26	Weiser	55
Portland West	73	Smithfield	14	Wells	25
Portneuf	46	Snowflake	94	West Boise	77
Potomac	152	South Bear River	28	West Covina	62
Provo	204	South Blackfoot	104	West Jordan	64
Puget Sound	60	South Box Elder	16	West Pocatello	31
Raft River	9	South Carolina	37	West Sharon	265
Raleigh	23	South Carolina West	25	West Utah	218
Redding	31	South Cottonwood	47	Whittier	107
Redondo	54	South Davis	56	Wichita	28
Redwood	21	South Idaho Falls	85	Wilford	47
Reno	42	South Los Angeles	34	Willamette	47
Reno North	41	South Ogden	27	Wind River	16
Reseda	119	South Salt Lake	19	Winder	53
Rexburg	79	South Sanpete	57	Winter Quarters	37
Rialto	33	South Sevier	38	Woodruff	57
Richland	137	South Summit	59	Yakima	52
Ricks College	63	Southern Arizona	11	Yellowstone	50
Rigby	73	Spanish Fork	184	Young	113
Riverdale	15	Spokane	76	Yuma	47
Riverside	18	Springville	218	Zion Park	27
Riverton	56	Star Valley	78	Unclassified	263
Roosevelt	68	Stuttgart	2	Missions	
Rose Park	23	Sugar House	33	Alaskan-Canadian	30
Rose Park North	3	Summit	20	Andes	9
Roy	24	Sunset	3	Andes South	1
Sacramento	81	Swiss	1	Argentine	3
St. George	31	Sydney	2	Australian	1
St. George East	37	Taber	34	Brazilian	7
St. Johns	57	Tacoma	30	Brazilian South	3
St. Joseph	31	Tampa	23	British	7
St. Louis	41	Taylor	73	British South	5
Salem	35	Taylorville	26	California	27
Salmon River	13	Taylorville West	36	California South	3
Salt Lake	38	Tempe	29	Canadian	43
San Antonio	20	Temple View	11	Central American	9
San Bernardino	81	Teton	51	Central Atlantic	
San Diego	99	Timpanogas	262	States	25
San Diego East	31	Tington Beach	33	Central British	4
San Diego South	39	Tooele	55	Central German	2
San Fernando	110	Toronto	25	Central States	37
San Francisco	54	Torrance	52	Chilean	2
San Joaquin	61	Tucson	54	Cumorah	66
San Jose	79	Tulsa	30	East Central States	61

East Germany	1	South African	3	Box Elder	109
Eastern Atlantic States	66	South German	5	Cache	146
Eastern States	3	Southeast Mexican ..	4	Carbon	90
Finnish	5	Southern Australian ..	4	Daggett	3
Florida	40	Southern Far East	52	Davis	443
Franco-Belgian	2	Southern States	31	Duchesne	113
French	7	Southwest British	7	Emery	43
French East	4	Southwest Indian	48	Garfield	40
Great Lakes	8	Swedish	5	Grand	19
Guatemala-El Salvador	2	Swiss-Austrian	4	Iron	53
Gulf States	13	Texas	38	Juab	62
Hawaii	19	Tongan	4	Kane	30
Irish	1	Uruguayan	5	Millard	146
Korean	7	West Central States ..	37	Morgan	18
Mexican	1	West German	12	Piute	8
Netherlands	1	West Spanish		Rich	12
New England	74	American	1	Salt Lake	2,271
New Zealand South ..		West Mexican	1	San Juan	84
North Argentine	2	Western Canadian	10	Sanpete	140
North Central States	45	Western States	28	Sevier	157
North German	2	TOTAL MISSIONS ..	1,111	Summit	79
Northern Far East	27	TOTAL STAKES	23,921	Tooele	179
Northern Indian	12	TOTAL STAKES AND MISSIONS	25,032	Uintah	123
Northern Mexican	2	NON-LDS STUDENTS	1,139	Utah	4,534
Northern States	44	TOTAL STUDENT BODY	26,171	Wasatch	96
Northwestern States ..	68	Utah Counties		Washington	115
Norwegian	7	Beaver	33	Wayne	26
Samoa	3			Weber	330
				Unidentified	7
				TOTAL	9,509

REGISTRATION THROUGH THE DIVISION OF CONTINUING EDUCATION
September 1, 1967 - August 31, 1968

Academic College	Credit Courses		Noncredit Courses		Totals	
	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.
Biol. & Agri. Sciences	1,364	116.3	99	4.0	1,463	120.4
Business	2,064	199.7	1,054	53.3	3,118	253.0
Education	4,228	341.0	72	3.9	4,300	344.9
Family Living	1,143	101.0	6,060	187.5	7,203	288.5
Fine Arts and Comm.	3,366	230.7	1,620	246.3	4,986	477.0
General College	290	13.2	668	29.6	958	42.8
Humanities	4,386	423.2	705	23.9	5,091	447.1
Ind. & Tech. Education	1,033	165.5	907	20.7	1,940	186.2
Library Science	204	16.0	....	....	204	16.0
Nursing	22	1.5	423	6.8	445	8.3
Phys. & Engr. Sciences	3,210	319.8	394	18.4	3,604	338.2
Physical Education	2,810	136.8	10,150	302.3	12,960	439.1
Religious Instruction	5,014	338.2	18,769	303.3	23,783	641.5
Social Sciences	4,568	410.2	227	3.7	4,795	413.9
Unclassified .....	....	....	23,613	1,027.0	23,613	1,027.0
TOTAL	33,702	2,813.1	64,761	2,230.8	98,463	5,043.9

*Full-Time Equivalent Students.

ENROLLMENT SUMMARY 1968-69
PROVO, UTAH
AS OF AUGUST 18, 1969

College	5th-Year					Men	Women	Total
	Freshman	Sophomore	Junior	Senior	Professional Graduate			
Biol. and Agri. Sciences	590	609	492	411	....	1,786	316	2,102
Business	434	599	601	558	....	1,732	460	2,192
Education	618	565	688	623	....	244	2,250	2,494
Family Living	461	458	553	512	....	42	1,984	2,026
Fine Arts and Communications	517	530	491	480	....	915	1,103	2,018
General	2,315	878	272	52	....	2,241	1,276	3,517
Humanities	431	444	453	486	....	604	1,210	1,814
Industrial and Technical Education	394	339	230	257	....	710	510	1,220
Nursing	147	112	97	91	....	10	437	447
Physical and Engineering Sciences	764	608	396	360	115	2,085	158	2,243
Physical Education	193	204	237	254	....	447	441	888
Social Sciences	790	852	818	839	....	2,173	1,126	3,299
Graduate School .....	....	....	....	....	3,059	2,082	977	3,059
Total Daytime College Students on Campus	7,654	6,198	5,328	4,923	115	15,071	12,206	27,277*
Evening School Students on Campus .....	....	....	....	....	....	910	1,293	2,203
Net Cumulative Total College Level .....	....	....	....	....	....	15,981	13,499	29,480
TOTAL STUDENTS ON BYU CAMPUS .....	....	....	....	....	....	15,981	13,499	29,480*

*Complete for the school year 1968-69, including Summer School 1969.

**Total enrollment for Fall and Spring Semesters only was 24,762. Total Summer School enrollment was 7,712, of whom 2,515 attended Summer School only.

NOTE: There are no duplications in this table.

**BRIGHAM YOUNG UNIVERSITY 1968-69 CUMULATIVE FALL AND SPRING
SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS
PROVO CAMPUS, ACCORDING TO STATES AND FOREIGN AREAS
AS OF AUGUST 18, 1969**

Mountain States		D. C. and Adjoining States		Yugoslavia		4
Utah	9,513	Virginia	216	Denmark		1
Idaho	2,822	Maryland	105	Belgium		7
Arizona	1,005	Dist. of Columbia	20	Wales		2
Nevada	546			Northern Ireland		3
Wyoming	404			Netherlands		3
Colorado	510			Greece and		
New Mexico	267	New England States		Dodecanese Island		2
Montana	230	Massachusetts	87	Monaco		1
		Connecticut	52			
		New Hampshire	24			
		Maine	23			162
		Rhode Island	11	Middle East		
		Vermont	14	India		59
				Iran		29
	15,297			Pakistan		7
Pacific States				Saudi Arabia		2
California	5,462	U. S. Territories		Israel		1
Washington	898	Canal Zone	4	Syria		3
Oregon	686	Puerto Rico	4	Iraq		1
Hawaii	140			Jordan		4
Alaska	58			Lebanon		1
				Afghanistan		1
	7,244					
Central States		TOTAL	8			108
Texas	318	UNITED STATES	25,869	Central America and		
Missouri	107	Dominion of Canada		Mexico		
Iowa	59	Alberta	452	Mexico		55
Minnesota	91	Ontario	68	Guatemala		5
Oklahoma	95	British Columbia	63	Honduras		5
Kansas	77	Saskatchewan	13	El Salvador		2
Nebraska	60	Quebec	10	British Honduras		1
South Dakota	48	Manitoba	12	Cuba		2
North Dakota	24	Maritime Provinces	11	Panama		1
		Yukon and N.W.		Bermuda		1
	879	Territory	2			
Great Lakes States		Newfoundland and	2			72
Illinois	212	Laborador	2	South America		
Ohio	152			Brazil		25
Michigan	141			Argentina		7
Wisconsin	101			Chile		7
Indiana	81			Uruguay		8
				Peru		22
	687	Far East		French Guiana and		
Southern States		Nationalist China	82	Inini		1
Florida	190	Japan	30	Colombia		2
North Carolina	82	Thailand	13	Venezuela		3
Georgia	69	Hong Kong	13	Ecuador		1
South Carolina	58	Philippines	5	Bolivia		1
Alabama	36	South Vietnam	3			
Tennessee	39	Netherlands				77
Louisiana	64	New Guinea	1	Australia and		
Arkansas	24	Malaya	2	Pacific Islands		
Kentucky	31	South Korea	18	New Zealand		19
West Virginia	21			Australia		15
Mississippi	22			Samoa Islands		11
				Tongan Islands		1
	636	Europe		Mariana Islands		1
Mid-Atlantic States		England	42	New South Wales		1
New York	286	Finland	23			48
New Jersey	121	France	11			
Pennsylvania	145	Scotland	4			
Delaware	14	Norway	7			
		Switzerland	6			
		West Germany	38			
		Sweden	5			
		Italy	1			
		Austria	2			
	566					

Africa		Unidentified	137
Nigeria	2	TOTAL FOREIGN	1,271
Southern Rhodesia ..	2	TOTAL DAYTIME	
		STUDENTS	27,277
	4		

RECAPITULATION

United States		
Mountain States		15,297
Pacific States		7,244
Central States		879
Great Lakes States		687
Southern States		636
Mid-Atlantic States		566
D. C. and Adjoining States		341
New England States		211
U. S. Territories		8
Dominion of Canada		633
Far East		167
Europe		162
Middle East		108
Central America and Mexico		72
South America		77
Australia and Pacific Islands		48
Africa		4
Unidentified		137
GRAND TOTAL		27,277

**BRIGHAM YOUNG UNIVERSITY 1968-69 CUMULATIVE FALL AND SPRING
SEMESTER AND SUMMER ENROLLMENT, REGULAR DAYTIME STUDENTS
FROM STAKES AND MISSIONS AS OF AUGUST 18, 1969**

Adelaide	1	Berlin	1	BYU Tenth	1
Alabama	4	Big Horn	115	Cache	6
Alameda	33	Billings	63	Calgary	47
Alaska	44	Blackfoot	76	Calgary North	39
Alberta	96	Blaine	28	Cannon	25
Albuquerque	49	Boise	67	Canoga Park	58
Albuquerque East	29	Boise North	85	Canyon Rim	74
Alpine	136	Bonneville	54	Carbon	56
American Falls	39	Boston	63	Cascade	45
American Fork	124	Bountiful	63	Casper	30
American River	98	Bountiful East	25	Cassia	49
Ammon	70	Bountiful North	53	Cedar	18
Anaheim	70	Bountiful South	61	Cedar Rapids	21
Antelope Valley	5	Box Elder	25	Cedar West	27
Apia	8	Brigham City	28	Cheyenne	53
Arlington	37	Buenos Aries	1	Chicago	74
Ashley	57	Burbank	100	Chicago South	48
Atlanta	33	Burley	125	Cincinnati	41
Auckland	2	Butler	26	Clearfield	42
Bakersfield	67	Butler West	20	Cleveland	48
Bannock	27	Butte	43	Coeur d'Alene	27
Baton Rouge	2	BYU First	82	College of So. Utah ..	2
Bear Lake	28	BYU Second	78	Columbia River	62
Bear River	21	BYU Third	70	Columbus	29
Beaumont	22	BYU Fourth	107	Concord	101
Beaver	28	BYU Fifth	64	Corpus Christi	7
Bend	2	BYU Sixth	113	Corvallis	21
Ben Lomond	30	BYU Seventh	62	Cottonwood	56
Ben Lomond South ..	10	BYU Eighth	77	Covina	97
Benson	17	BYU Ninth	3	Craig	34

Cumora	53	Hattiesburg	8	Memphis	12
Dallas	70	Hawkes Bay	2	Mesa	64
Davis	56	Hayward	66	Mesa South	53
Dearborn	5	Helena	3	Mexico City	1
Denver	71	Highland	26	Mexico City North	1
Denver South	57	Hillside	40	Miami	29
Denver West	78	Hilo	1	Midvale	87
Deseret	82	Holladay	97	Mid-Michigan	2
Detroit	68	South	7	Millard	56
Duchesne	45	Honolulu	44	Millcreek	27
East Cache	16	Houston	41	Milwaukee	62
East Idaho Falls	91	Houston East	9	Minidoka	104
East Jordan	63	Humboldt	27	Minnesota	66
East Long Beach	108	Hunter	28	Missoula	33
East Los Angeles	55	Huntington Beach	41	Moapa	40
East Mesa	62	Huntington Park	72	Modesto	56
East Midvale	7	Hyrum	13	Mojave	71
East Mill Creek	46	Idaho	54	Monterey Bay	48
East Ogden	44	Idaho Falls	113	Montevideo	2
East Phoenix	61	Idaho State Univ.	9	Montpelier	79
East Pocatello	32	Illinois	37	Monument Park	59
East Provo	329	Indianapolis	41	Monument Park	
East Rigby	59	Inglewood	113	West	48
East Sharon	744	Jackson	7	Morgan	18
Edmonton	46	Jacksonville	3	Moroni	24
El Monte	32	Juab	69	Mt. Graham	49
El Paso	56	Juarez	33	Mt. Jordan	83
Emery	39	Kanab	43	Mt. Logan	9
Emigration	24	Kansas City	88	Mt. Ogden	14
Ensign	61	Kaysville	55	Mt. Olympus	47
Fair Oaks	24	Kearns	18	Mt. Rubidoux	75
Farr West	21	Kearns North	18	Murray	30
Flagstaff	38	Klamath	30	Murray South	50
Florida	50	Kolob	207	Murray West	7
Fort Wayne	18	Lake Mead	62	Nampa	110
Fort Worth	12	Lake View	11	Napa	67
Franklin	53	Lansing	67	Nebo	148
Fremont	27	Las Vegas	99	Nevada	37
Fresno	64	Las Vegas Central	20	New Jersey	64
Fresno East	49	Las Vegas East	95	New Jersey Central	27
Fullerton	89	Las Vegas North	57	New Orleans	36
Garden Grove	44	Layton	32	Newport Beach	13
Garfield	20	Layton East	10	New York	81
Glasgow	1	Leeds	1	Norfolk	31
Glendale	153	Lehi	130	North Box Elder	32
Gooding	51	Leicester	1	North Carbon	32
Grand Coulee	64	Lethbridge	66	North Carolina	18
Grand Coulee North	34	Lewiston	51	North Columbia	
Grand Junction	72	Liberty	21	River	41
Granger	58	Logan	5	North Davis	22
Granger North	20	London	13	North Idaho Falls	96
Granite	19	Long Beach	64	North Jordan	32
Granite Park	26	Long Island	20	North Pocatello	8
Grant	39	Lorin Farr	27	North Rexburg	74
Grantsville	56	Los Angeles	69	North Sacramento	51
Great Falls	54	Lost River	19	North Sanpete	30
Greensboro	12	Lyman	52	North Seattle	86
Gridley	92	Macon	13	North Sevier	30
Guatemala City	1	Malad	66	North Tooele	61
Gunnison	32	Manchester	1	North Weber	15
Hamburg	2	Maricopa	55	Norwalk	45
Hamilton	5	Marin	5	Nyssa	114
Hamilton South	3	Medford	43	Oahu	69
Hartford	44	Melbourne	2	Oakland-Berkeley	154

Ogden	10	Salt Lake	30	Sydney South	1
Oklahoma	46	San Antonio	29	Taber	40
Olympia	17	San Bernardino	76	Tacoma	36
Olympus	44	San Diego	96	Tampa	26
Oneida	51	San Diego East	33	Taylor	85
Oquirrh	29	San Diego South	53	Taylorville	38
Oquirrh East	13	San Fernando	94	Taylorville West	28
Orem	271	San Francisco	51	Tempe	35
Orem West	258	San Joaquin	73	Temple View	12
Orlando	49	San Jose	69	Teton	55
Palm Springs	18	San Jose South	3	Texas North	7
Palmyra	125	San Jose West	101	Timpanogos	252
Palo Alto	186	San Juan	101	Tooele	42
Palomar	69	San Leandro	61	Toronto	25
Panguitch	27	San Luis	34	Torrance	69
Park	18	San Luis Obispo	23	Tucson	52
Parley	33	San Mateo	132	Tucson North	1
Parowan	10	Sandy	73	Tulsa	35
Pasadena	170	Sandy East	32	Twin Falls	110
Pasco	52	Santa Ana	74	Uintah	57
Pearl Harbor	24	Santa Barbara	132	Union	76
Philadelphia	57	Santa Maria	31	University	24
Phoenix	38	Santa Monica	98	University 2nd	15
Phoenix North	70	Santa Rosa	96	University West	25
Phoenix West	29	Santaquin-Tintic	38	Utah	180
Pikes Peak	47	Sao Paulo	4	Utah State Univ.	13
Pioneer	20	Scottsdale	82	Utah State Univ. 2nd ..	5
Pocatello	28	Seattle	76	Uvada	31
Pomona	81	Seattle East	80	Valley View	76
Portland	71	Servicemen's Stake ..	1	Vancouver	28
Portland West	88	Sevier	81	Virginia	31
Portneuf	48	Sharon	324	Walnut Creek	97
Potomac	138	Shelley	99	Wasatch	121
Provo	218	Shreveport	41	Washington	116
Puget Sound	58	Simi	22	Washington Terrace ..	15
Raft River	15	Smithfield	13	Wayne	31
Raleigh	20	Snowflake	83	Weber	11
Redding	40	South Bear River	33	Weber Heights	24
Redondo	45	South Blackfoot	112	Weber State College ..	2
Redwood	20	South Box Elder	14	Weiser	65
Reno	46	South Carolina	29	Wells	25
Reno North	39	South Carolina East ..	3	West Boise	76
Reseda	130	South Carolina West ..	27	West Covina	50
Rexburg	88	South Cottonwood	50	West Jordan	71
Rialto	28	South Davis	47	West Pocatello	29
Richland	107	South Idaho Falls	98	West Sharon	275
Ricks College	74	South Los Angeles	32	West Utah	231
Rigby	79	South Ogden	16	Whittier	101
Riverdale	13	South Salt Lake	19	Wichita	33
Riverside	21	South Sanpete	44	Wilford	50
Riverton	51	South Sevier	40	Willamette	58
Roosevelt	55	South Summit	54	Wind River	19
Rose Park	30	Southern Arizona	14	Winder	60
Rose Park North	7	Spanish Fork	181	Winter Quarters	27
Roy	23	Spokane	67	Woodruff	57
Roy North	6	Springville	211	Yakima	56
Sacramento	68	Star Valley	80	Yellowstone	47
St. George	30	Stuttgart	4	Young	115
St. George East	24	Sugar House	28	Yuma	54
St. Johns	51	Summit	15	Zion Park	35
St. Joseph	31	Sunderland	1	Unclassified	249
St. Louis	55	Sunset	1	TOTAL	25,031
Salem	36	Swiss	1		
Salmon River	10	Sydney	3		

Missions					
Alaskan-Canadian	46	Korean	7	TOTAL STAKES	
Andes	11	New England	71	AND MISSIONS	26,258
Andes South	1	New Zealand South	2	NON-LDS	
Argentine	5	North Argentine	3	STUDENTS	1,019
Australian	2	North British	4	TOTAL STUDENT	
Austrian	2	North Central States	64	BODY	27,277
Bavarian	2	North German	5	Utah Counties	
Brazilian	6	Northern California	1	Beaver	32
Brazilian South	5	Northern Far East	21	Box Elder	120
British	8	Northern Indian	12	Cache	126
British South	5	Northern Mexican	2	Carbon	98
California	20	Northern States	48	Daggett	2
California South	5	Northwestern States	62	Davis	435
Canadian	42	Norwegian	8	Duchesne	92
Central American	10	Ohio	2	Emery	47
Central Atlantic		Samoan	3	Garfield	30
States	35	Scottish	1	Grand	24
Central British	4	South African	5	Iron	52
Central German	3	South German	8	Juab	67
Central States	35	Southeast Mexican	2	Kane	32
Chilean	6	Southern Australian	3	Millard	145
Cumorah	75	Southern Far East	36	Morgan	15
East Atlantic States	78	Southern States	44	Piute	16
East Central States	63	Southwest British	4	Rich	15
Eastern States	5	Southwest Indian	63	Salt Lake	2,297
Finnish	7	Spanish-American	1	San Juan	86
Florida	43	Swedish	3	Sanpete	132
Franco-Belgian	6	Swiss	6	Sevier	149
French	9	Texas	46	Summit	72
French East	5	Texas South	2	Tooele	168
Great Lakes	12	Tongan	3	Uintah	121
Guatemala-		Uruguayan	5	Utah	4,582
El Salvador	1	West Central States	43	Wasatch	107
Gulf States	14	West German	9	Washington	116
Hawaii	18	Western Canadian	20	Wayne	28
Irish	3	Western States	36	Weber	300
Italian	1	TOTAL MISSION	1,227	Unidentified	6
		TOTAL STAKES	25,031	TOTAL	9,513

REGISTRATION THROUGH THE DIVISION OF CONTINUING EDUCATION
September 1, 1968 - August 31, 1969

Academic College	Credit Courses		Noncredit Courses		Totals	
	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.	Enroll-ments	*F.T.E.S.
Biol. & Agri. Sciences	1,559	135.3	305	13.0	1,864	148.3
Business	2,162	204.0	1,336	66.0	3,498	270.0
Education	5,852	474.0	159	4.3	6,011	478.3
Family Living	1,357	116.5	5,205	165.3	6,562	281.8
Fine Arts & Commun.	3,430	230.1	4,733	201.6	8,163	431.7
General College	390	18.3	803	38.3	1,193	56.6
Humanities	4,262	405.2	388	26.3	4,650	431.5
Industrial & Tech. Ed.....	864	76.3	2,025	122.7	2,889	199.0
Library Science	132	10.1	....	....	132	10.1
Nursing	23	1.1	230	3.7	253	4.8
Physical & Engr. Sciences ..	3,709	368.2	440	19.4	4,149	387.6
Physical Education	3,122	160.3	6,704	316.4	9,826	476.7
Religious Instruction	4,852	329.5	45,439	483.2	50,291	812.7
Social Sciences	5,276	485.4	367	14.3	5,643	499.7
Unclassified .....	....	....	15,402	837.6	15,402	837.6
TOTAL	36,990	3,014.3	83,536	2,312.1	120,526	5,326.4

*Full-Time Equivalent Students.

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